EXECUTIVE SUMMARY

The Problem

The existing OR 212/224 corridor, which forms the main east-west travel route between I-205 and Rock Creek Junction, has serious congestion and safety problems. Residential and business traffic is severely delayed during peak periods, with travel speeds as low as four miles per hour at several locations along OR 212/224. (The amount of congestion is discussed in more detail in the Transportation Section, Chapter 3.)

Between 2005 and 2030, the Portland Metro region is expected to accommodate about 50 percent more households and up to 72 percent more new jobs,[1] while the proposed Sunrise Project would serve an area that is expected to accommodate almost double the current number of households and jobs. The transportation study area is forecasted to grow from 16,000 to 32,000 households and from 48,000 to 89,000 jobs.[2]

The planned population and employment growth by 2030 will worsen existing problems. The duration of congestion and the extent of queuing are expected to more than double. By 2030 the resulting traffic demand would far exceed the capacity that the current four lanes can be expected to handle safely and efficiently.

[1] The household and jobs forecasts here were provided by Metro in 2005. In April 2009 Metro published the 20 and 50 year Regional Population and employment range forecasts (April 2009 draft) for the Portland-Beaverton-Vancouver Primary Metropolitan Statistical Area as defined by the federal Office of Management and Budget (the counties of Multnomah, Clackamas, Washington, Yamhill, Columbia, Clark, and Skamania). The 2009 medium and high household projections to 2030 are higher than the projections in 2005, with expected growth of 55 and 63 percent, respectively. Projected job growth rate in the high range is 72 percent, the same as in 2005. The medium range is lower than projected in 2005, with medium growth rate projected at 50 percent to 2030.

[2] Data in this paragraph derive from Metro's regional traffic demand model and are discussed in the Sunrise Project Transportation Technical Report, Section 6.4.1.

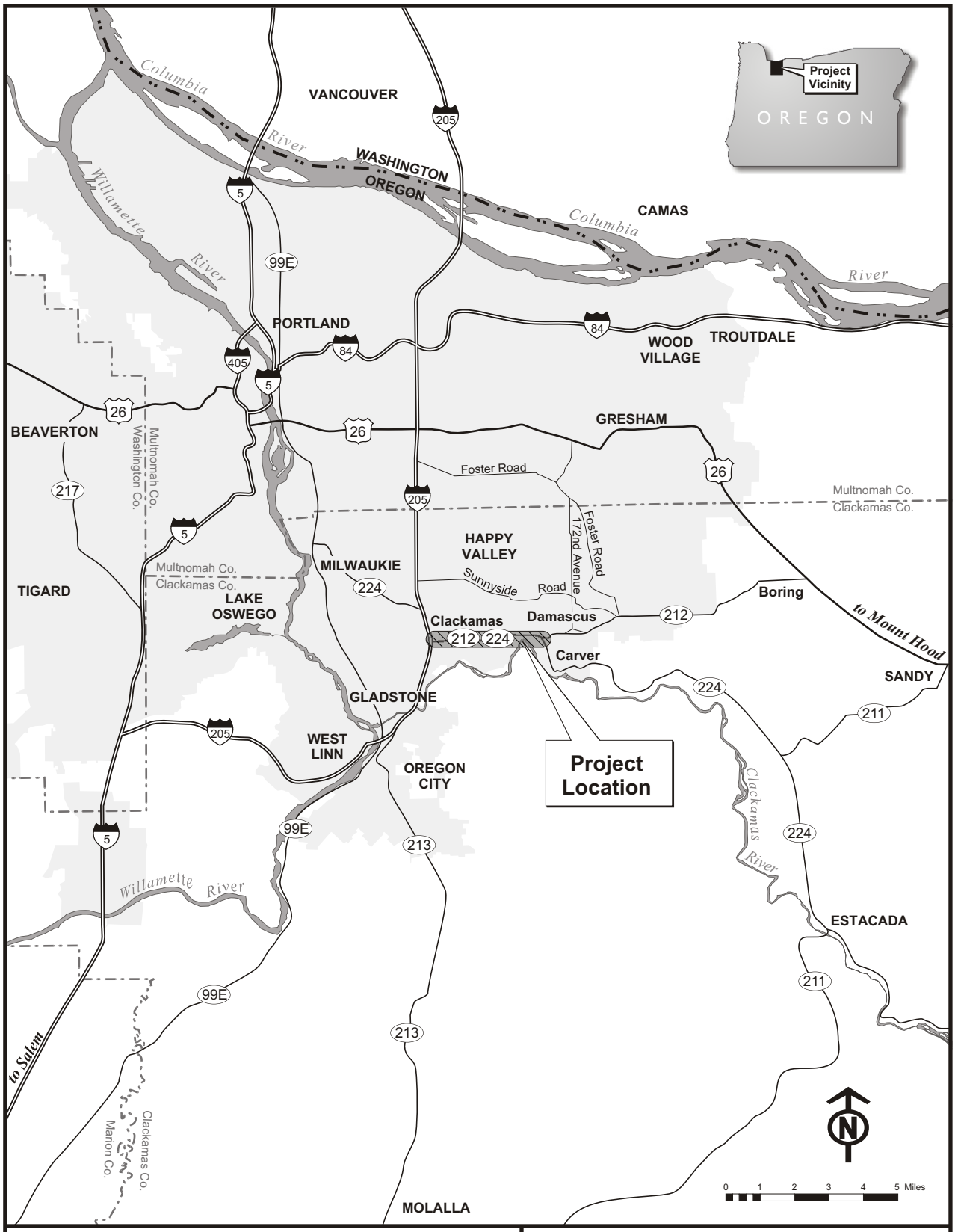
Project Location and Study Area

The general location of the new facility, named the proposed Sunrise Project, is depicted in Figure 1, Project Vicinity. The proposed Sunrise Project would extend approximately five miles between I-205 and Rock Creek Junction. Under **Alternatives 2** and **3**, the west end transition to existing roadways would be to SE Johnson Road and under the **Preferred Alternative** would be to SE Webster Road. The project would extend to SE 172nd Avenue on the east end. Figure 2 shows the project area. The project is often discussed by subarea. Three subareas are outlined on Figure 2 and cover the following geographic areas:

- The I-205 Interchange area extends from west of I-205 to Camp Withycombe.
- The Midpoint area extends from Camp Withycombe to SE 152nd Avenue.
- The Rock Creek Junction area stretches from SE 152nd Avenue to SE 172nd Avenue.

Proposed Action from the SDEIS

The Oregon Department of Transportation (ODOT) and Clackamas County proposed to build a new, east-west oriented, limited-access highway between Interstate 205 (I-205) and the Rock Creek Junction (where OR 212 and 224 diverge to the east and south). See Figure 1, Project Vicinity and Figure 2, Project Area. The proposed Sunrise Project would connect I-205, the Milwaukie Expressway (OR 224), SE 82nd Avenue/Drive, and OR 212/224. It would have six through-lanes plus two auxiliary lanes, so it would be as wide as eight lanes across in some locations. The I-205/Clackamas Interchange would be reconfigured with new ramps and access points, and a new interchange would be built at Rock Creek Junction. There would be no direct property access or local street access to the proposed Sunrise Project.



Legend

- County Boundary
- Project Location
- Rivers
- State Boundary
- Urban Growth Boundary

INCORPORATED CITY

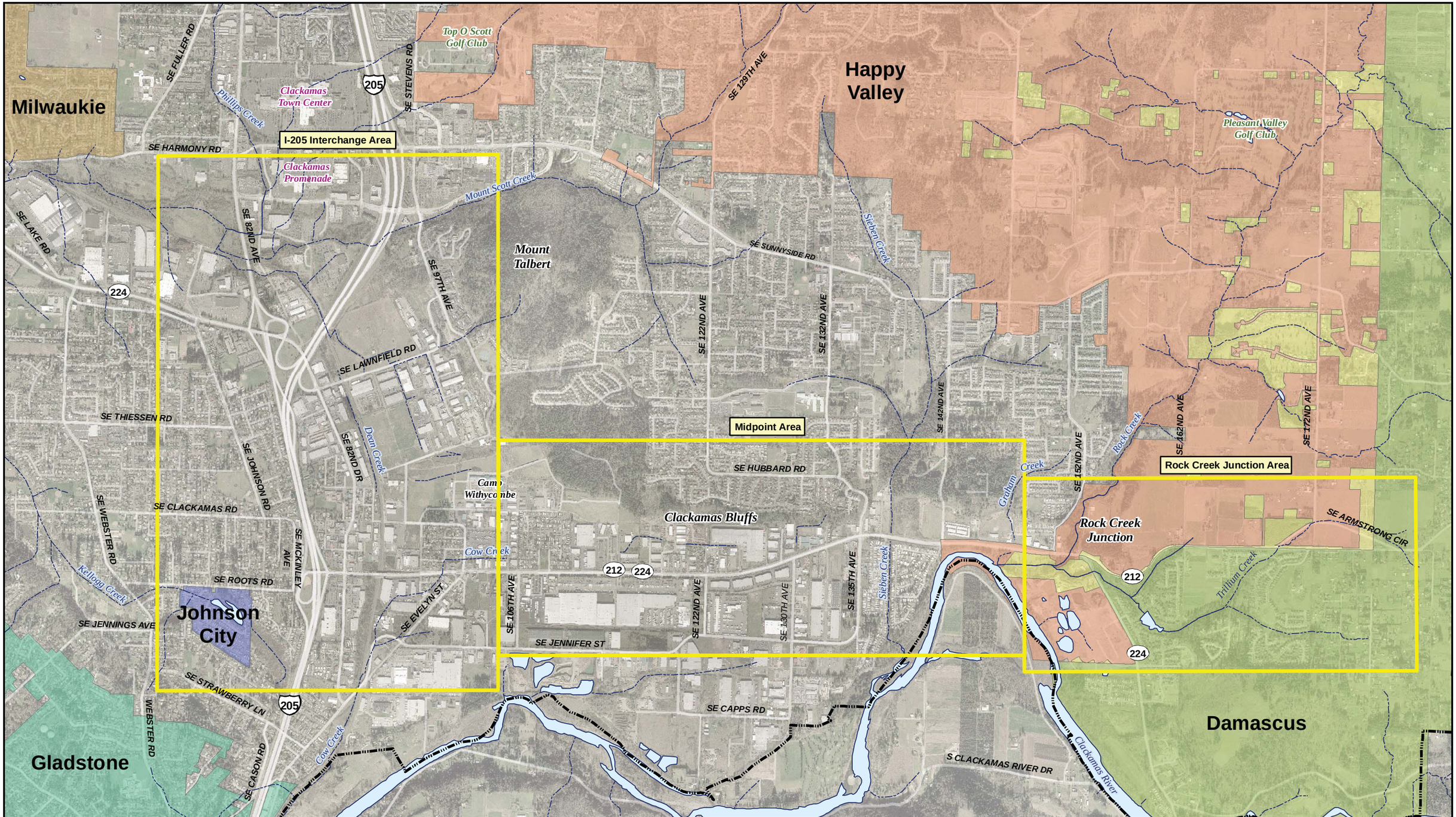
Unincorporated Community

- Interstate
- U.S. Highway
- State Highway
- Other Major Roads

Figure 1

Project Vicinity

Sunrise Project, I-205 to Rock Creek Junction



2,000 0 2,000 Feet

Sources:
ODOT and Metro, Portland OR

Legend

- Urban Growth Boundary (UGB)
- Project Subareas
- River
- Streams

Local Jurisdictions

- Clackamas Co.
- Damascus
- Gladstone
- Happy Valley
- Johnson City
- Milwaukie

Figure 2

Project Area

Sunrise Project, I-205 to Rock Creek Junction

This page left intentionally blank

Preferred Alternative Identified in the FEIS

The **Preferred Alternative** in this FEIS is **Alternative 2** as studied in the SDEIS coupled with **Design Options C-2** and **D-3** and a portion of **Design Option A-2** (Tolbert overcrossing). Additionally, the **Preferred Alternative** includes several minor design modifications based on both stakeholder input and additional preliminary design refinement related to analysis of traffic performance and avoidance of environmental resources. For more detail, see the descriptions of alternatives in Chapter 2.

Project Purpose and Need

Project Purpose

The purpose of the Sunrise Project is to effectively address the existing congestion and safety problems in the OR 212/224 corridor between its interchange with I-205 and Rock Creek Junction, and to serve the growing demand for regional travel and access to the state highway system.

Project Need

The project purpose is demonstrated with the following statements of need:

- OR 212/224 between I-205 and Rock Creek Junction is currently experiencing unacceptable levels of congestion and delay during the peak travel periods. In 2030, the projected traffic volume will far exceed the volume that the existing four-lane arterial can be expected to handle at an acceptable level of service.[3]
- By 2030, the numbers of households and jobs in the area served by this section of OR 212/224 are expected to increase by 136 percent and 85 percent, respectively.[4]
- Both the northbound and southbound weave sections of I-205 between SE 82nd Avenue and OR 212/224 are approaching capacity, resulting in frequent stop-and-go movements, difficulty in changing lanes, and long queues forming because of minor incidents. By the year 2015, this section of I-205 will exceed its design capacity and the length of these stop-and-go movements will continue to grow if no action is taken. Traffic traveling on the Milwaukie Expressway (OR 224) heading east on OR 212/224, as well as the reverse direction, must either use the above section of I-205 or the currently congested SE 82nd Drive.[5]
- OR 212/224 near I-205 is ranked in the top 10 percent of state routes for vehicle crash rate. Over 500 vehicle collisions [between I-205 and Rock Creek Junction] were reported for this area during the five-year period of 1998 through 2002. The high crash rate is attributed to severe congestion and roadway deficiencies. Inadequate bicycle and pedestrian facilities reduce the safety and connectivity for these modes of travel in the project area.[6]

---

[3] *Based on field observations in 2004/5, segments of OR 212/224 within the Sunrise Project area experienced approximately four hours of daily congestion. There are two intersections that are currently operating above the volume/capacity ratio standard of 0.90 established in the 1999 Oregon Highway Plan for this type of facility. In 2030, based on regionally adopted land use and employment projections and Metro's regional travel demand projections, without the proposed Sunrise Project, the same roadway is expected to experience about nine hours of congestion. See Chapter 6 of Sunrise Project Transportation Technical Report.*

[4] *Based on growth projections from Metro 2004 data which was available for the development of the Purpose and Need. Technical analysis for the Transportation Technical Report used Metro's updated 2005 model to develop projections for 2030. This resulted in predicted jobs growth of 87 percent and household growth of 97 percent.*

[5] *Based on field observations in 2004/5 and analysis of forecast future year travel demand associated with the range of alternatives studied. See Sections 5.6.3 and 6.7.3 of Sunrise Project Transportation Technical Report.*

[6] *Based on analysis summarized in Section 5.9 of Sunrise Project Transportation Technical Report.*

A safety analysis was conducted in September 2010 to reflect more recent crash data provided by the ODOT Crash Analysis and Reporting Unit for years 2005 through 2009. OR 212/224 near I-205 continues to be ranked in the top 10 percent of the State's safety ranking index within the ODOT's safety ranking index (Safety Priority Index System or "SPIS") for 2010. Over 500 vehicular collisions were reported between I-205 and Rock Creek Junction during the five-year period of 2005 through 2009. In addition, safety performance from 2007 through 2009 has placed segments of OR 212 east of Rock Creek Junction, I-205 between milepoints 12.0 and 15.0, and Milwaukie Expressway near I-205, in the top 10 percent of the State's safety ranking index.

- OR 212/224 is designated as a statewide and regional freight route, with 12 percent of the traffic on the project section of this highway being trucks. OR 212/224 serves the Clackamas Industrial Area, which is a major freight distribution center for the Northwest. This area is expected to nearly double its employment by the year 2015. Long delays are currently reported for trucks accessing I-205 from the distribution center.[7]

The Transportation Technical Report contains data on and an extensive discussion of safety and the impacts of projected growth on traffic on I-205 and OR 212/224. The Transportation Section of this FEIS (Chapter 3) also discusses the key issues of planned growth, congestion, and safety.

Project Alternatives Considered in the SDEIS

Three alternatives and six design options were considered in the SDEIS. **Alternative 1–No Build** (Figures 3 and 4 on pages ES-11 and ES-12) is required by National Environmental Policy Act (NEPA), as well as ODOT's Federal Highway Administration (FHWA) guidelines. **Alternatives 2** and **3** (Figure 5, page ES-13) proposed the construction of a new multi-lane, limited-access highway north of and parallel to the existing OR 212/224 between I-205 and Rock Creek Junction. Within each of the build alternatives there were additional design options that provided modifications or variations on different segments of these alternatives.

Alternative 1–No Build. Alternative 1 maintained the existing roadway system including committed improvements scheduled in ODOT's four-year Statewide Transportation Improvement Program (STIP) and the Metropolitan Service District's (Metro) Financially Constrained Projects listed in the 2035 Regional Transportation Plan (RTP). The programmed projects in the project vicinity assumed to be included are as follows (planned year of operation):

- SE 82nd Drive, widen from existing three lanes to five lanes between SE Lawnfield Road and OR 212/224 (RTP #5106, 2026-2035).
- SE 102nd Avenue, SE Clackamas Road, and SE Industrial Way, improve all to Mather Road for improved truck access, with better intersection/roadbed conditions for trucks turning and wider shoulders (Clackamas County project, 2008-2017. Phase 1 OR 212 to Mather Road under construction 2010-2011; Phase 2 planned for 2012).
- New arterial, construct four- and five-lane arterial, north and east from Rock Creek Junction Interchange to SE 162nd Avenue. (Clackamas County project. Phase 1 between OR 212 and Sunnyside completed in 2010.)
- Sunnybrook West Extension, construct a three-lane facility extending from SE 82nd Avenue (OR 213N) to Harmony Road near Fuller Road (Clackamas County project, 2012-2017).
- SE 172nd Avenue, widen from existing two lanes to four and five lanes between

[7] *Based on truck counts from 2004/5 at specific locations within the OR 212/224 corridor. See Section 5.7 of Sunrise Project Transportation Technical Report.*

SE Foster Road and SE Sunnyside Road (RTP #7000, by 2017).

- OR 224, widen from existing two lanes to five lanes between Rock Creek Junction and Carver Bridge (2018).
- OR 212, Rock Creek to Damascus, add climbing lane (RTP#5007).
- 242nd Avenue, OR 212 to Palmquist, widen from 2 lanes to 5 lanes (future Damascus project).
- OR 212, Rock Creek to 257th Avenue, widen from 2 or 3 lanes to 5 lanes (future Damascus project).
- Sunnyside Road extension, 172nd Avenue to 242nd Avenue, widen to 5 lanes (future Damascus project).
- 232nd Avenue extension, OR 212 to Borges Road, widen from 2 lanes to 3 lanes (future Damascus project).
- 190th Avenue extension, Tillstrom Road to 172nd Avenue, 5 lanes (part of RTP project #7000 and future Damascus project).

Projects assumed in the model to be added to RTP or local transportation system plan and built by 2030:

- Carver Bridge, widen to five lanes (2025).
- Gronlund Road, widen from 2 lanes to 5 lanes.
- Bradley Road, widen from 2 lanes to 3 lanes.
- Forsythe Road, widen from 2 lanes to 5 lanes.
- Holcomb Boulevard, widen from 2 lanes to 3 lanes.
- Clackamas River Drive, widen from 2 lanes to 3 lanes.
- A new crossing of the Clackamas River connecting the I-205/Gladstone interchange with Clackamas River Drive (5 lanes).

Transit improvements included under **Alternative 1** were limited to those identified in Metro's RTP and include primarily modest increases in service hours. Bicycle and pedestrian improvements were those already planned for the area, as shown on Figure 4, **Alternative 1–No Build** Pedestrian and Bicycle Systems.

Alternative 2–Build with Midpoint Interchange. **Alternative 2** provided a multi-lane, limited-access highway north of and parallel to the existing OR 212/224 between I-205 and Rock Creek Junction. A midpoint interchange connected the highway to the existing OR 212/224, ensuring access to businesses along that corridor. From I-205 to Rock Creek Junction (where OR 212/224 splits into OR 212 to the east and OR 224 to the south), the highway had six lanes plus auxiliary lanes. East of Rock Creek Junction, the highway narrowed to six lanes with no auxiliary lanes until SE 172nd Avenue, where it narrowed to five lanes.

Alternative 3–Build with No Midpoint Interchange. **Alternative 3** was the same design as **Alternative 2**, but with no midpoint interchange.

Design Options. Figures 6 through 9 illustrate the design options. Each design option was developed to address different constraints, or avoid or minimize specific natural or built environmental impacts. Most of the design options could have been substituted for a comparable segment alignment (such as **Design Option C-2** or **C-3** instead of **Alternative 2** in that segment). All design options except **B-2** and **C-3** could have been incorporated into either of the build alternatives. A more detailed description of each design option in relation to each build alternative follows.

- **Design Option A-2** provides access to/from SE 82nd Drive and the Lawnfield industrial area via an overcrossing of Union Pacific Railroad (UPRR) tracks to SE Tolbert Street. It does not extend SE Lawnfield Road to the north. This design option was available under both build alternatives. It was intended to provide local access to/from the Lawnfield Road industrial area and I-205 without the adverse impacts that would result from extending SE Lawnfield Road to the north.
- **Design Option B-2** applies only to **Alternative 2** and incorporates a modified split interchange involving both SE 122nd

Avenue and SE 130th Avenue. It is a substitute for the single diamond interchange included in **Alternative 2**. **Design Option B-2** could have been considered with **Design Option A-2** and/or **Design Option C-2**. However, it was not compatible with the design of the curves in **Design Option C-3**, so those two options could not be combined.

- **Design Option C-2** locates the Sunrise Project alignment farther south than the **Alternative 2** or **3** alignment and could have been substituted for the comparable segment in **Alternative 2** or **3**, and for **Design Option C-3**.
- **Design Option C-3** locates the Sunrise Project alignment farther north than the **Alternative 2** or **3** alignment and could have been substituted for the comparable segment in **Alternative 2** or **3**, and for **Design Option C-2**. However, **Design Option B-2** and **Design Option C-3** are incompatible due to the curves in **Design Option C-3**.
- **Design Option D-2** provides a different type of interchange design than under **Alternative 2** or **3** at the OR 212/224 split, reducing the interchange footprint slightly on the north side. It could have been substituted for the comparable segment in **Alternative 2** or **3**, and for **Design Option D-3**.
- **Design Option D-3** provides a different type of interchange design at the Rock Creek Junction than under **Alternative 2** or **3** and **Design Option D-2**, reducing the interchange footprint further and moving it slightly south. It could have been substituted for the comparable segment in **Alternative 2** or **3**, and for **Design Option D-2**.

Transit, Pedestrian, and Bicycle Network. New and more frequent local transit service planned and provided by TriMet would occur under the build alternatives, along with new express bus service along the proposed Sunrise Project. Although the Sunrise Project will not be providing express bus service, the service that will be provided by TriMet would not be feasible without the new facility.

The build alternatives proposed new multi-use path improvements that connect to the existing I-205 trail system, filling in gaps in the non-motorized system. Choice of design options did not affect provision of the multi-use path improvements. Figures 5 through 7 show the planned location of the multi-use path and its connections.

Preferred Alternative Identified in this FEIS

The **Preferred Alternative** is **Alternative 2** with the Tolbert overcrossing from **Design Option A-2,** and incorporates the alignment of **Design Option C-2** and the SPUI interchange of **Design Option D-3.** Accordingly, the **Preferred Alternative** derives from various elements discussed in the SDEIS. Additionally, the **Preferred Alternative** includes several modifications based on both stakeholder input and additional design refinement related to analysis of traffic performance and avoidance of environmental resources. Figures PA-1 through PA-5 show the **Preferred Alternative** from west to east. The **Preferred Alternative** will construct a multi-lane, limited-access highway north of and parallel to the existing OR 212/224 between I-205 and Rock Creek Junction. A midpoint interchange will connect the highway to the existing OR 212/224, ensuring access to businesses along that corridor. From I-205 to Rock Creek Junction (where OR 212/224 splits into OR 212 to the east and OR 224 to the south), the highway will have six lanes plus auxiliary lanes. East of Rock Creek Junction, the highway will narrow to six lanes with no auxiliary lanes until SE 172nd Avenue, where it will narrow to five lanes. For more detail, see the alternatives' descriptions in Chapter 2.

Preliminary Project Costs

Preliminary construction and right-of-way cost estimates for the build alternatives are summarized in Table 1. Actual construction costs would depend upon labor and materials costs, competitive market conditions, final project requirements, and other variables at the time of the construction contract. Construction

cost estimates are based on unit costs as derived from recent large construction projects in the region. Both cost estimates for current year (2009) and expected year of construction (2013) are provided. Estimated 2013 costs are derived using inflation factors of 4.3 percent (2009 – 2011) and 4.0 percent (2012 – 2013).

Alternatives 2 and **3.** Depending on the alternatives and design options selected, the total cost of the proposed project was estimated to range from $1.31 billion to $1.61 billion (2013 dollars) for **Alternatives 2** and **3** with the various design options when the SDEIS was published.

Preferred Alternative. The **Preferred Alternative** is estimated to cost $1.49 billion (2013 dollars), of which $216 million is for right-of-way acquisition. Right-of-way acquisition costs estimates are higher in the FEIS than those in the SDEIS because the SDEIS estimates did not include the costs of administration, demolition, or contingency items and the FEIS estimates do.

Currently, ODOT, Metro, and Clackamas County have estimated that $428 million are available for the project over the next 20 years. The commitment of $428 million is included in the Metro 2035 RTP financially-constrained list of projects. FHWA has guidance for major projects that imposes requirements on recipients of federal financial assistance for projects with an estimated cost of $500 million or more. The proposed Sunrise Project will need to comply with those requirements by developing a Project Management Plan and a Financial Plan, mechanisms for managing such large projects. ODOT is currently preparing those plans. The project would likely be constructed in phases, with funding anticipated from multiple sources over time.

Funding currently committed to the project totals $200.55 million: $143.87 million in committed funding, and $56.68 million in value of surplus ODOT and County properties available for project right-of-way. Specific funding derives from the following sources: 2009 State Legislation (Jobs & Transportation Act – State Gas Tax) ($100 million); ODOT Oregon Transportation Investment Act (OTIA) III ($20 million); ODOT surplus properties for project right-of-way ($35.07 million); Clackamas County Development Agency – surplus properties for project right-of-way ($21.61 million); Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) federal reauthorization earmark ($18 million); State Transportation Improvement Program (STIP – State Gas Tax) ($3 million); Surface Transportation Program federal appropriations earmarks ($1.1 million); ODOT contributions ($909,000); and Clackamas County contributions ($860,000).

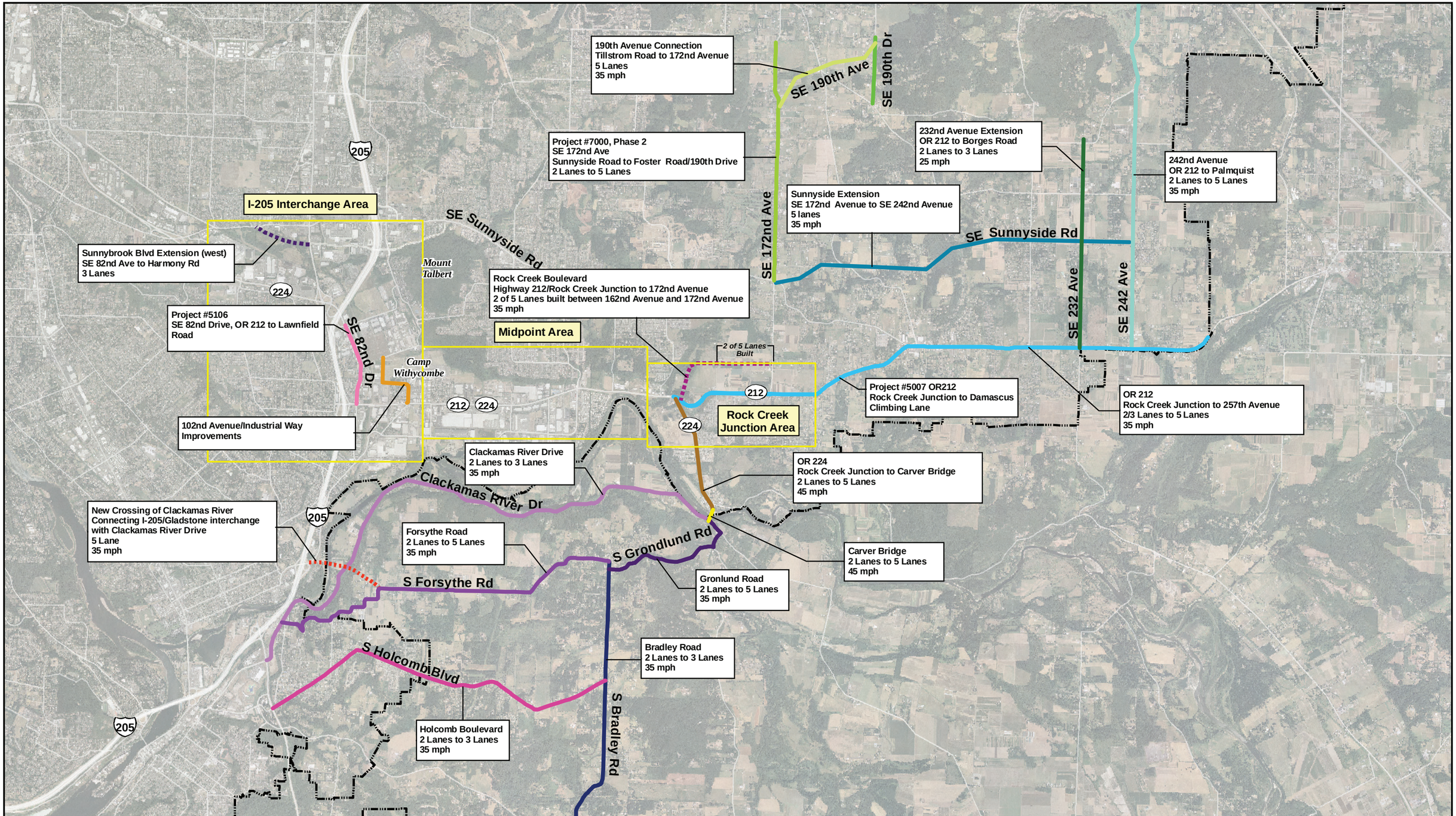
The type and source of likely future funding would include the following: annual ODOT Region 1 Modernization fund allocations; 2015, 2021, and 2027 federal reauthorization program funds; 2011 state legislative program for Projects of Statewide Significance; and possible tolling revenue. The Oregon Transportation Commission (OTC) has stated its intention not to initiate project-specific tolling analyses until the OTC has had an opportunity to address wider policy issues associated with tolling (anticipated at a later date).

Table 1. Construction and Right-of-Way Cost Estimates for Build Alternatives (millions)

	2009 Estimated Project Costs (from 2008 SDEIS)			Project Costs in 2013[1]
Alternative/Design Option	**Construction**	**Right-of-Way**	**Total Project**	**Total Project**
Alternative 1 – No Build	n/a	n/a	n/a	n/a
Alternative 2 – Build with Midpoint Interchange	$1,084	$170	$1,254	$1,445
w/Design Option A-2	$1,070	$173	$1,243	$1,432
w/Design Option B-2	$1,185	$174	$1,359	$1,568
w/Design Option C-2	$961	$173	$1,134	$1,303
w/Design Option C-3	$1,093	$177	$1,270	$1,463
w/Design Option D-2	$1,078	$172	$1,250	$1,441
w/Design Option D-3	$1,097	$170	$1,267	$1,461
Alternative 3–Build without Midpoint Interchange	$1,026	$160	$1,186	$1,368
w/Design Option A-2	$1,013	$163	$1,176	$1,355
w/Design Option C-2	$1,030	$161	$1,191	$1,373
w/Design Option C-3	$1,036	$163	$1,199	$1,382
w/Design Option D-2	$939	$166	$1,105	$1,270
w/Design Option D-3	$1,040	$152	$1,192	$1,376
Preferred Alternative	$1,085	$216	$1,301	$1,493

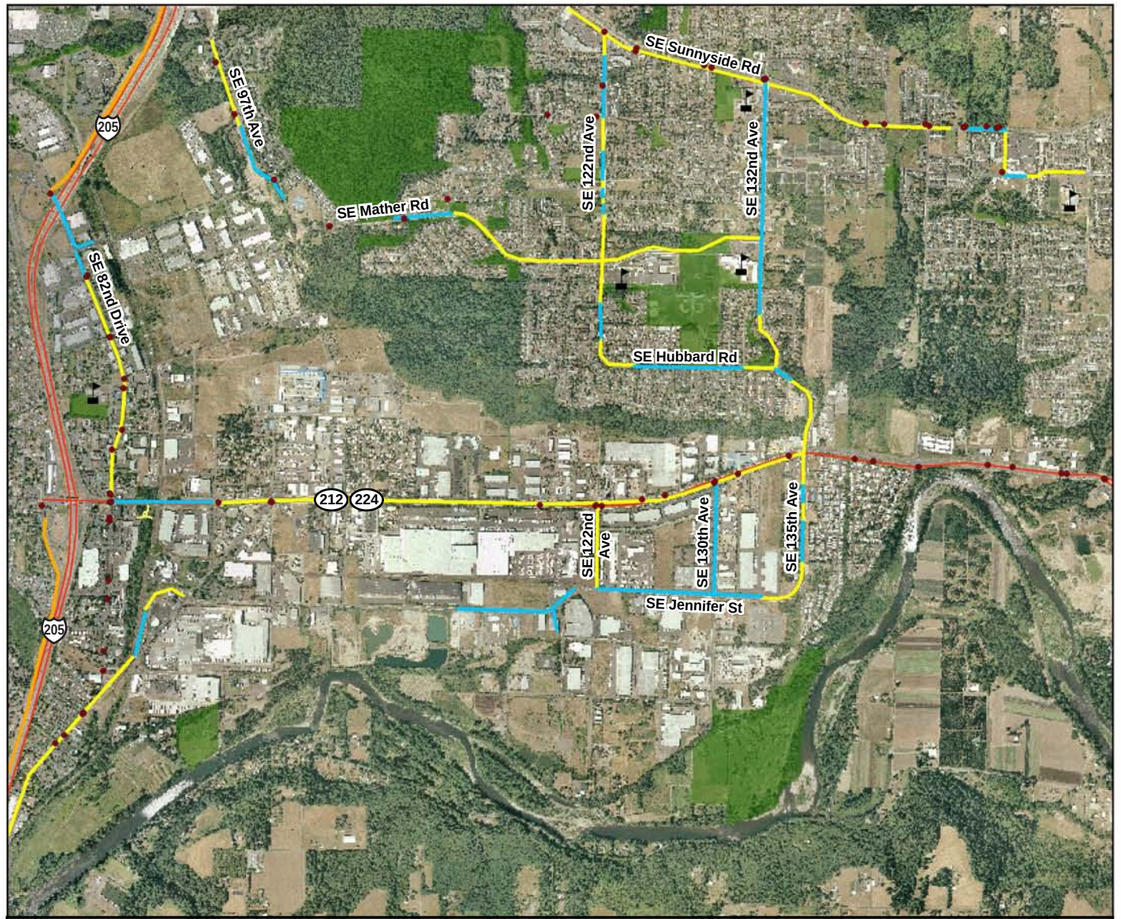
[1]Dollars are inflated to anticipated year of construction.

Construction costs were adjusted assuming 4.3% annual inflation through 2011 and 4% inflation between 2011 and 2013. Right-of-way costs were assumed to remain stable over the planning period.



File: P:\O\ODOT00000648\0600INFO\GS\arcmap\FEIS_Transportation\Fig03_Alt_1_NoBuild_08242010_v2.mxd
Printing Date: Tuesday, October 12, 2010 3:41 PM

Existing Pedestrian Facilities

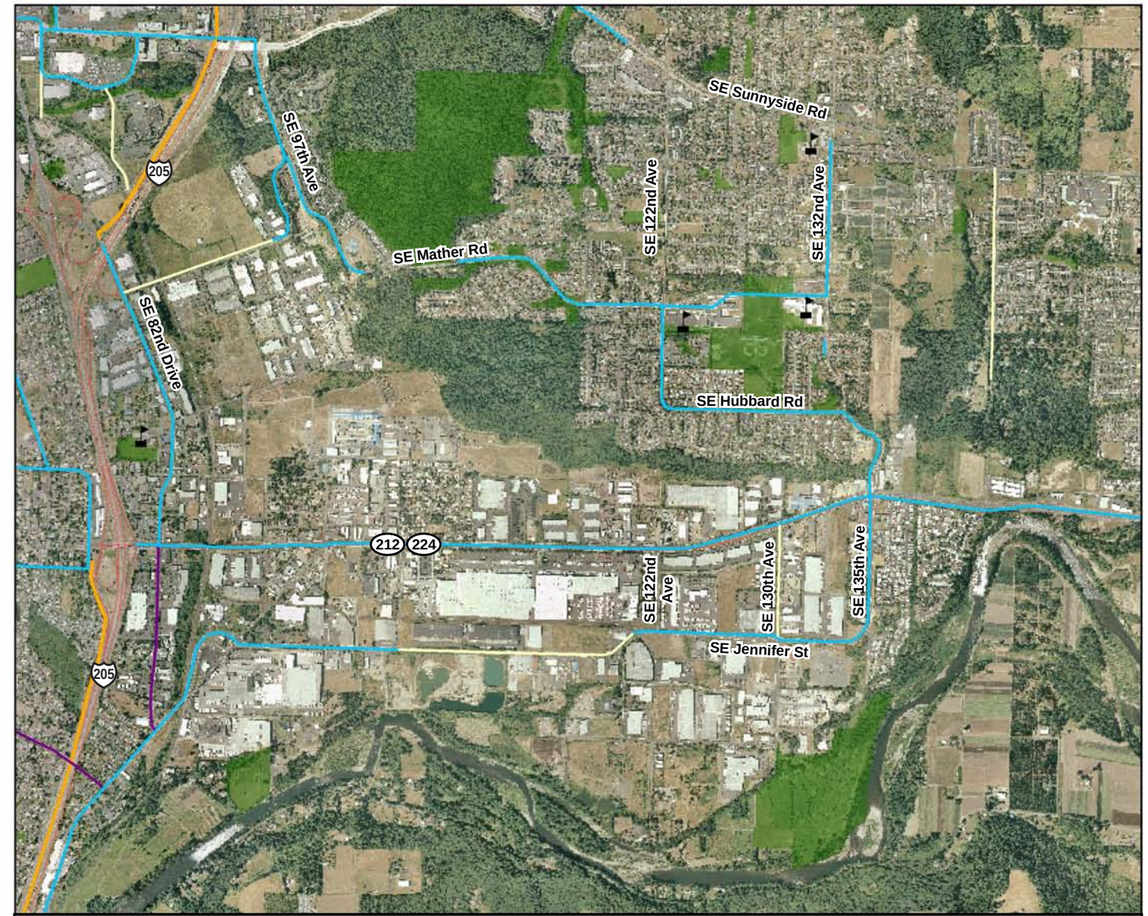


Legend:

- I-205 Multi-Use Path
- Sidewalks
- One Side Sidewalk
- Demand Paths*
- Bus Stop
- Highway
- School
- Park

** Demand paths are created by people walking where no formal facility exists.*

Existing and Planned Bicycle Facilities



Legend:

- Existing Bike Lanes
- I-205 Multi-Use Path
- Planned Bike Lanes
- Low/Medium Traffic Volumes
- Highway
- School
- Park

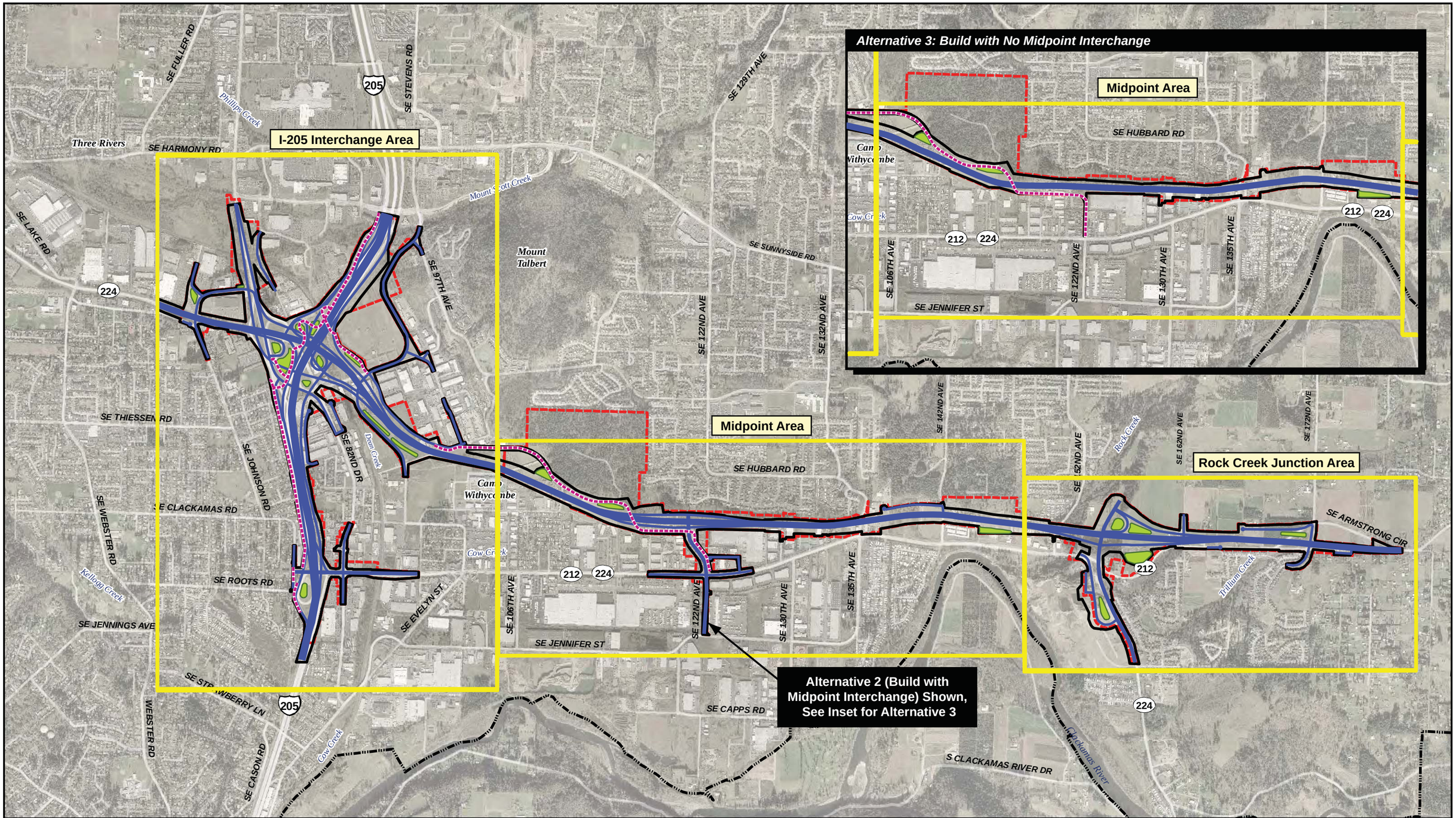
0 0.5 1 Miles

N

Figure 4

Alternative 1 - No Build
Pedestrian and Bicycle Systems

Sunrise Project, I-205 to Rock Creek Junction



N

2,000 0 2,000 Feet

Sources:
ODOT and Metro, Portland OR

Legend

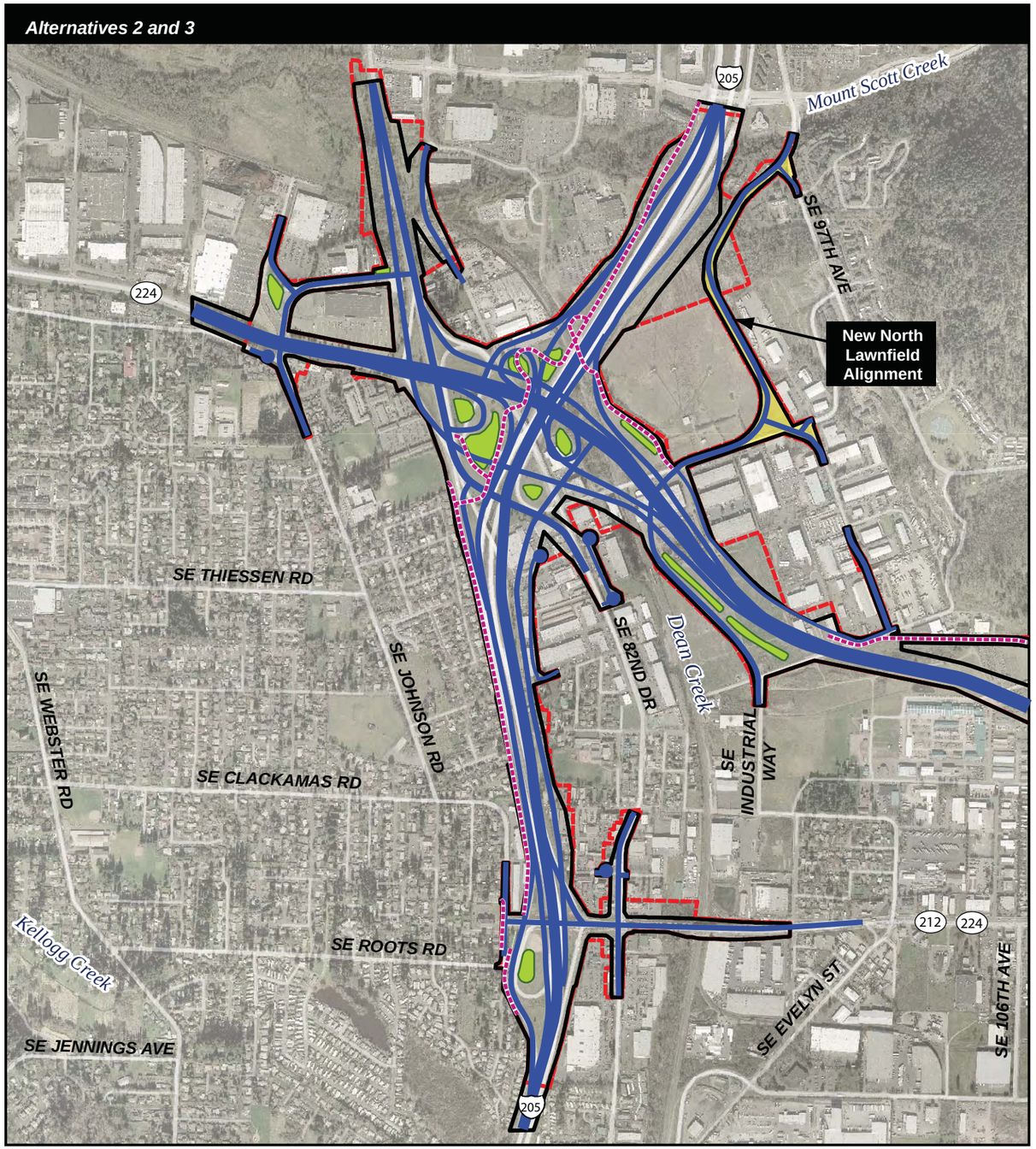
- Urban Growth Boundary (UGB)
- Project Subareas
- Construction Impact Line
- Right-of-Way
- Potential Stormwater Facilities
- Proposed Roadway
- Proposed Multi-Use Path

Figure 5

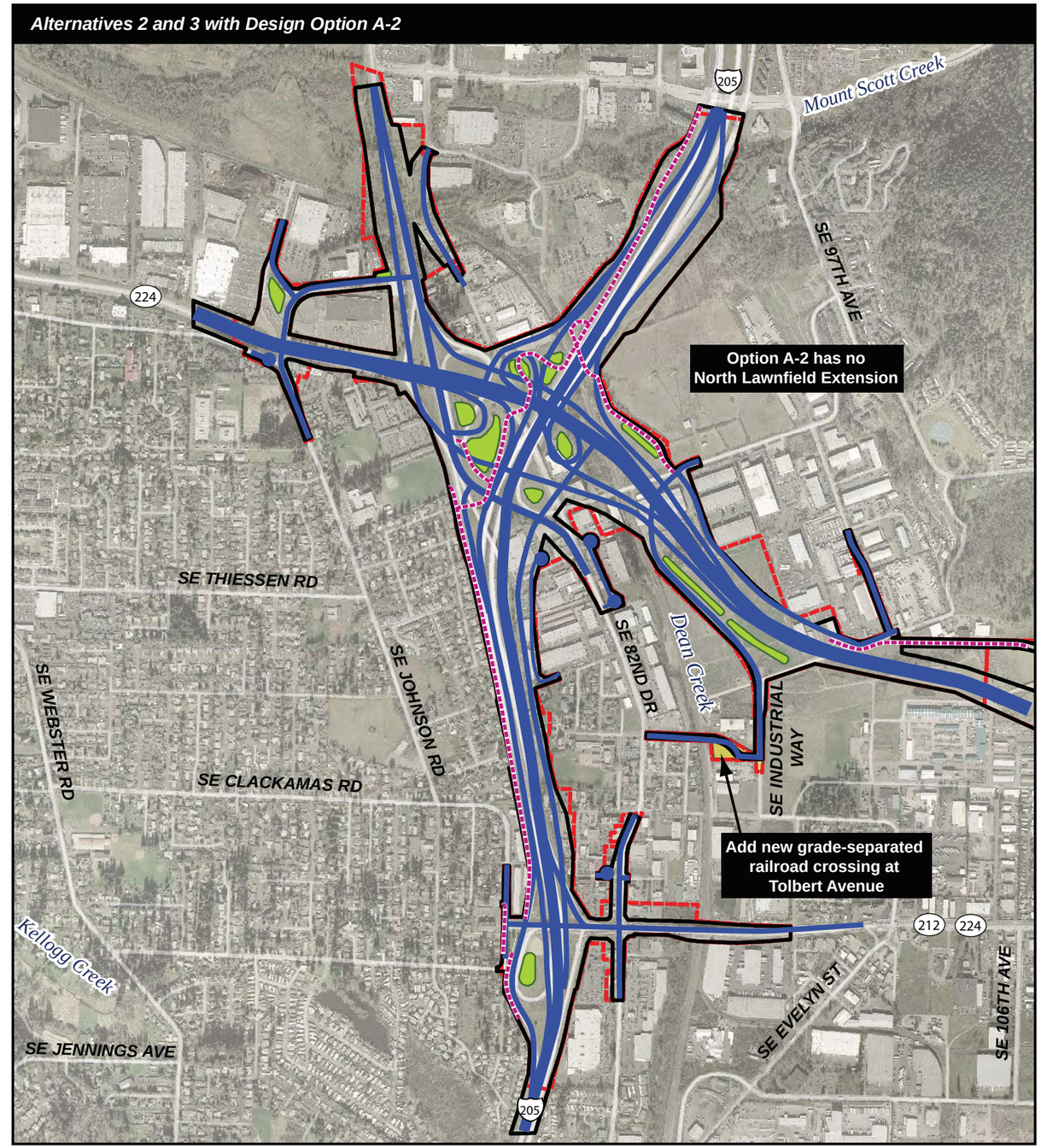
Alternatives 2 and 3

Sunrise Project, I-205 to Rock Creek Junction

Alternatives 2 and 3



Alternatives 2 and 3 with Design Option A-2



N

1 500 0 1 500 eet

Sources
ODOT and Metro Portland O

Legend

- Area of Potential Impact
- Right-of-Way
- Potential Stormwater Facilities
- Proposed Roadway
- Proposed Multi-Use Path

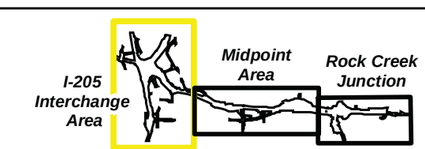
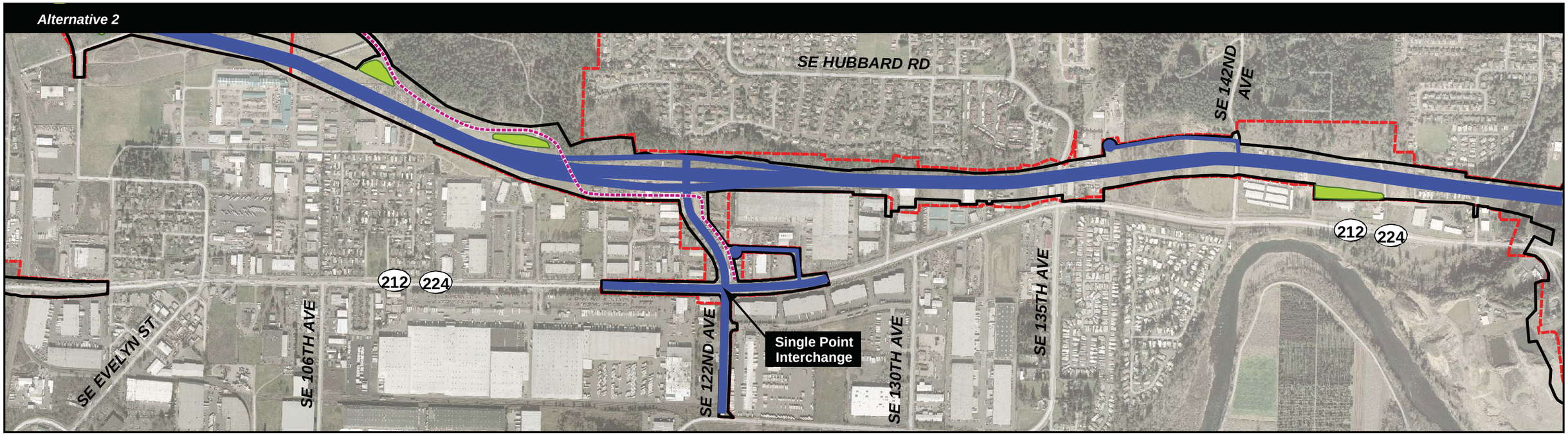
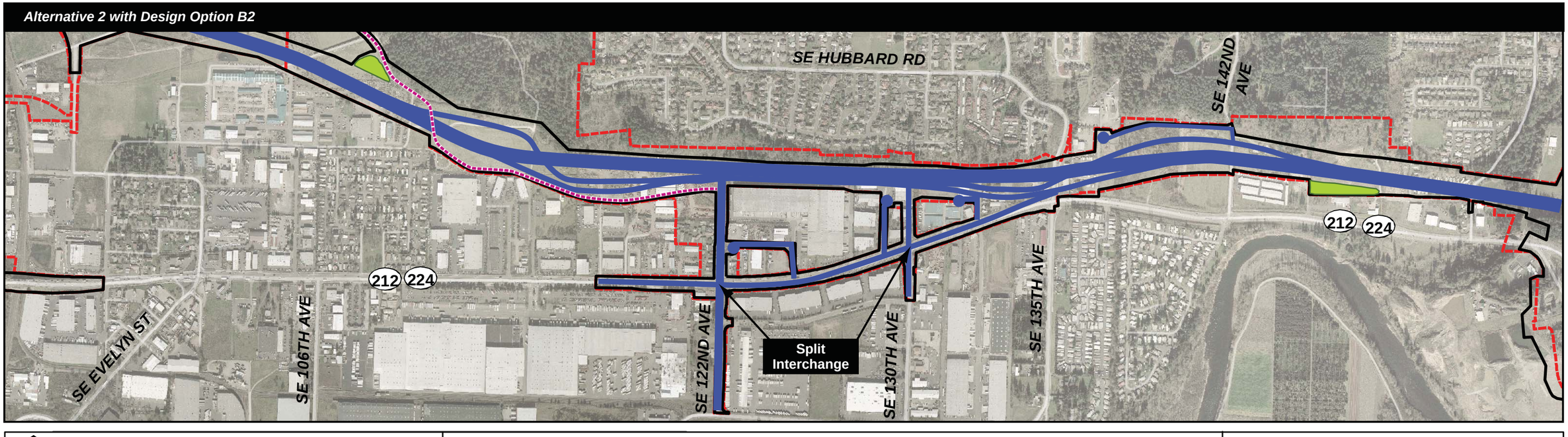


Figure 6

Comparison of Options for I-205 Interchange Area

Sunrise Project, I-205 to Rock Creek Junction





N

1,200 0 1,200 Feet

Sources:
ODOT and Metro, Portland OR

Legend

- Area of Potential Impact
- Right-of-Way
- Potential Stormwater Facilities
- Proposed Roadway
- Proposed Bikeway

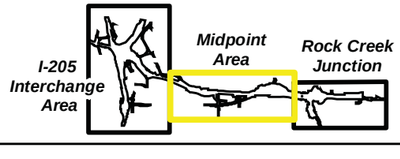
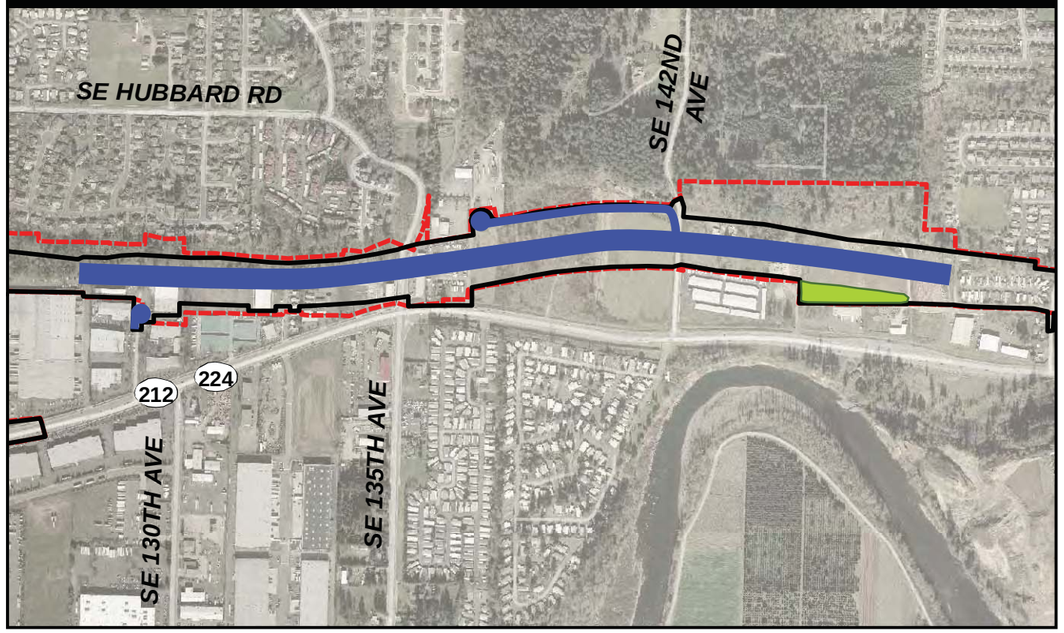


Figure 7

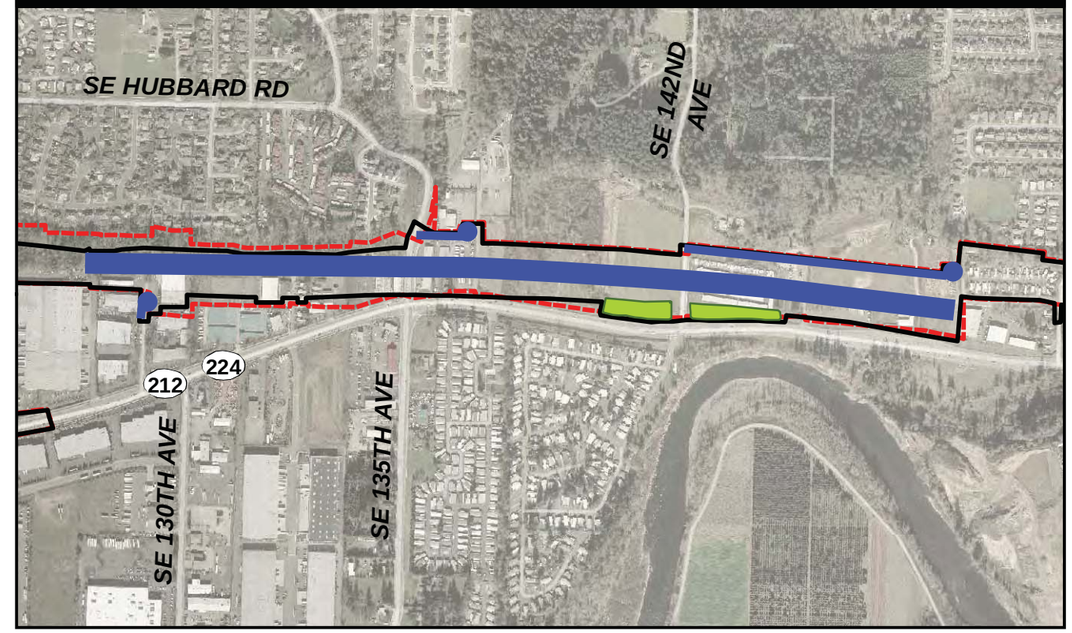
Comparison of Options for Midpoint Area

Sunrise Project, I-205 to Rock Creek Junction

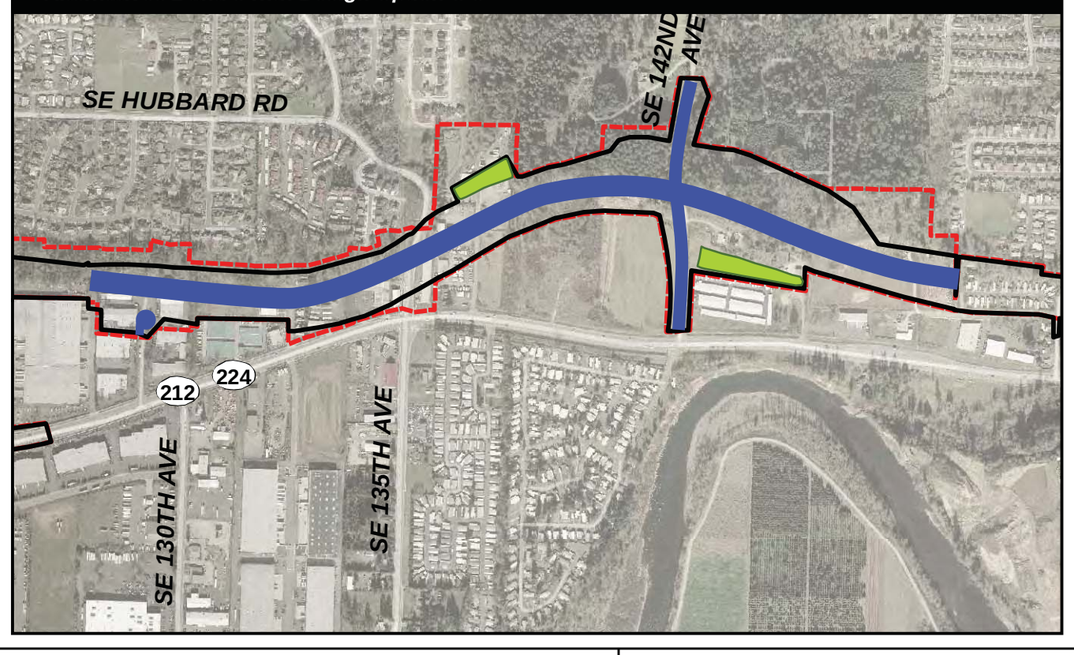
Alternatives 2 and 3



Alternatives 2 and 3 with Design Option C-2



Alternatives 2 and 3 with Design Option C-3



1,200 0 1,200 Feet

Sources:
ODOT and Metro, Portland OR

Legend

- Area of Potential Impact
- Right-of-Way
- Potential Stormwater Facilities
- Proposed Roadway

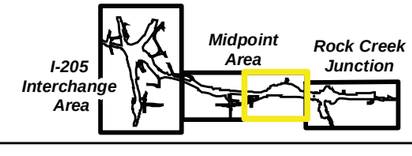
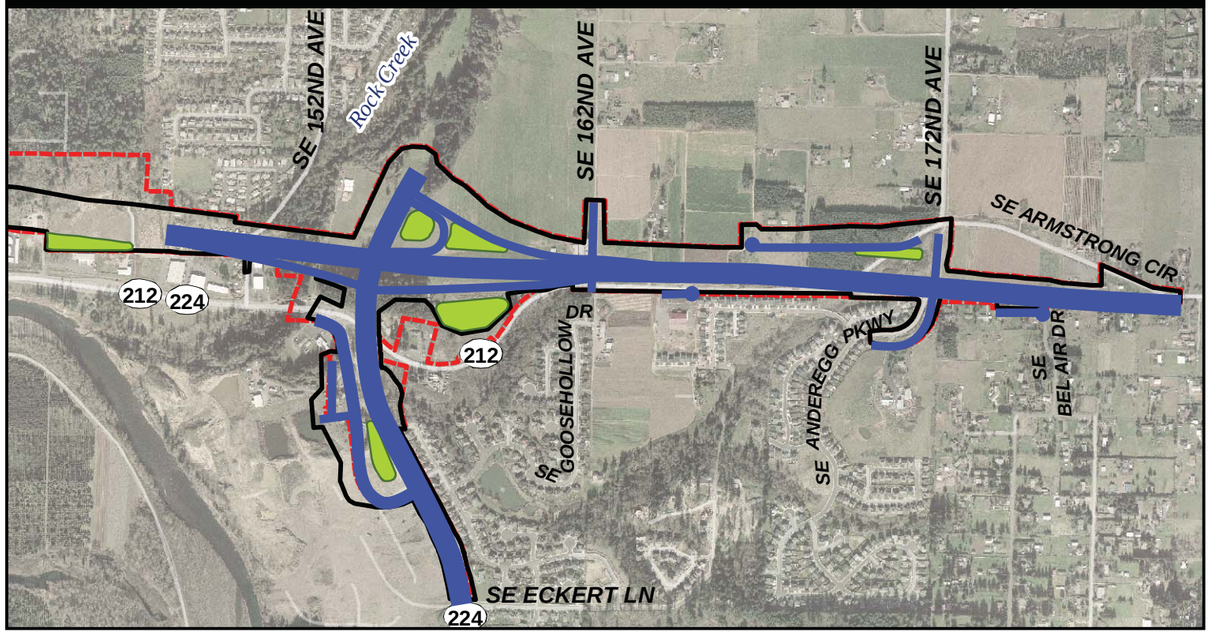


Figure 8

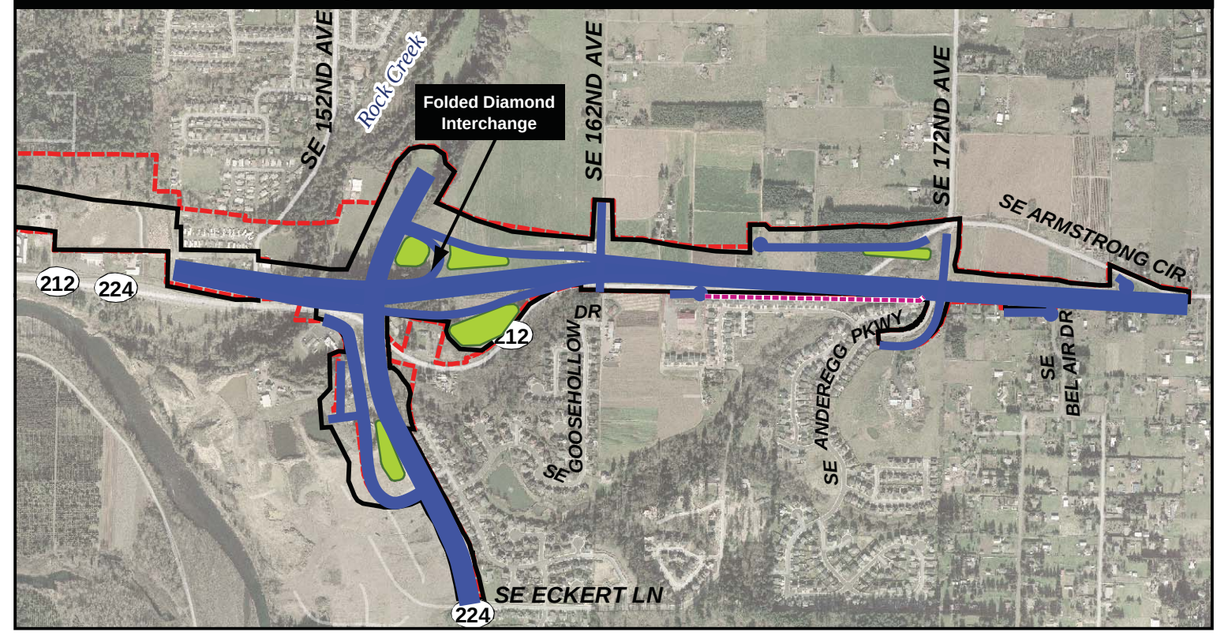
Comparison of Options for Midpoint Area (East End)

Sunrise Project, I-205 to Rock Creek Junction

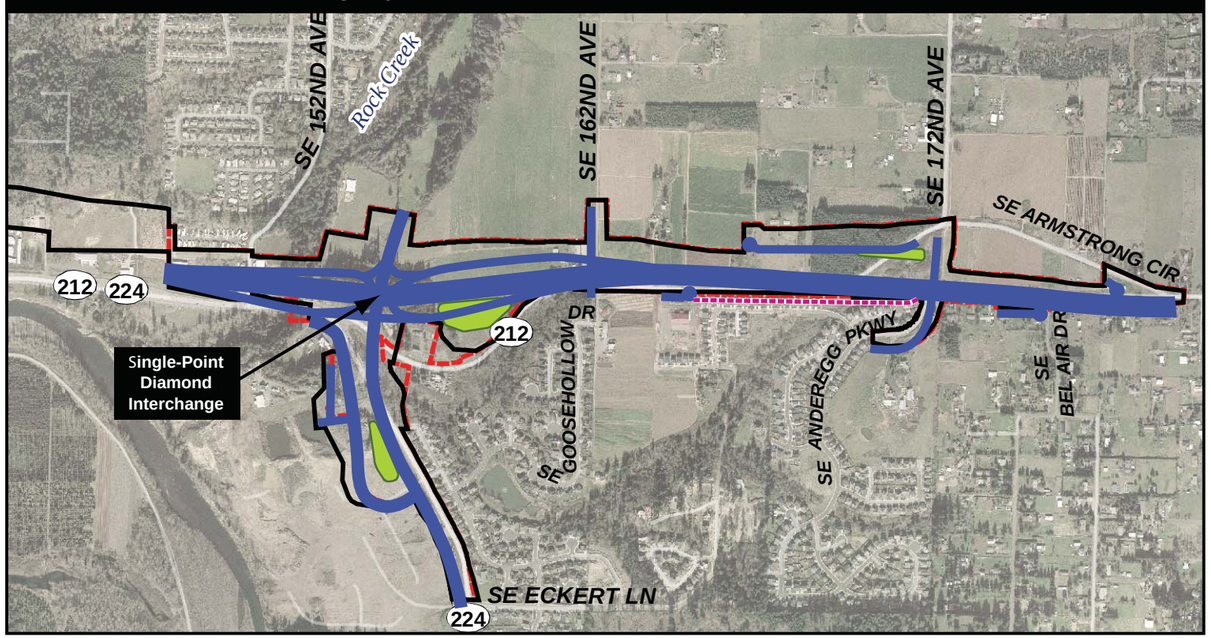
Alternatives 2 and 3



Alternatives 2 and 3 with Design Option D-2



Alternatives 2 and 3 with Design Option D-3



N

1,500 0 1,500 Feet

Sources:
ODOT and Metro, Portland OR

Legend

- Area of Potential Impact
- Right-of-Way
- Potential Stormwater Facilities
- Proposed Roadway
- Proposed Multi-Use Path

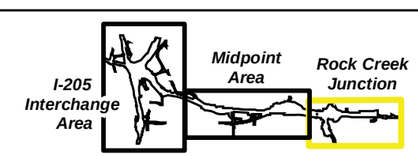
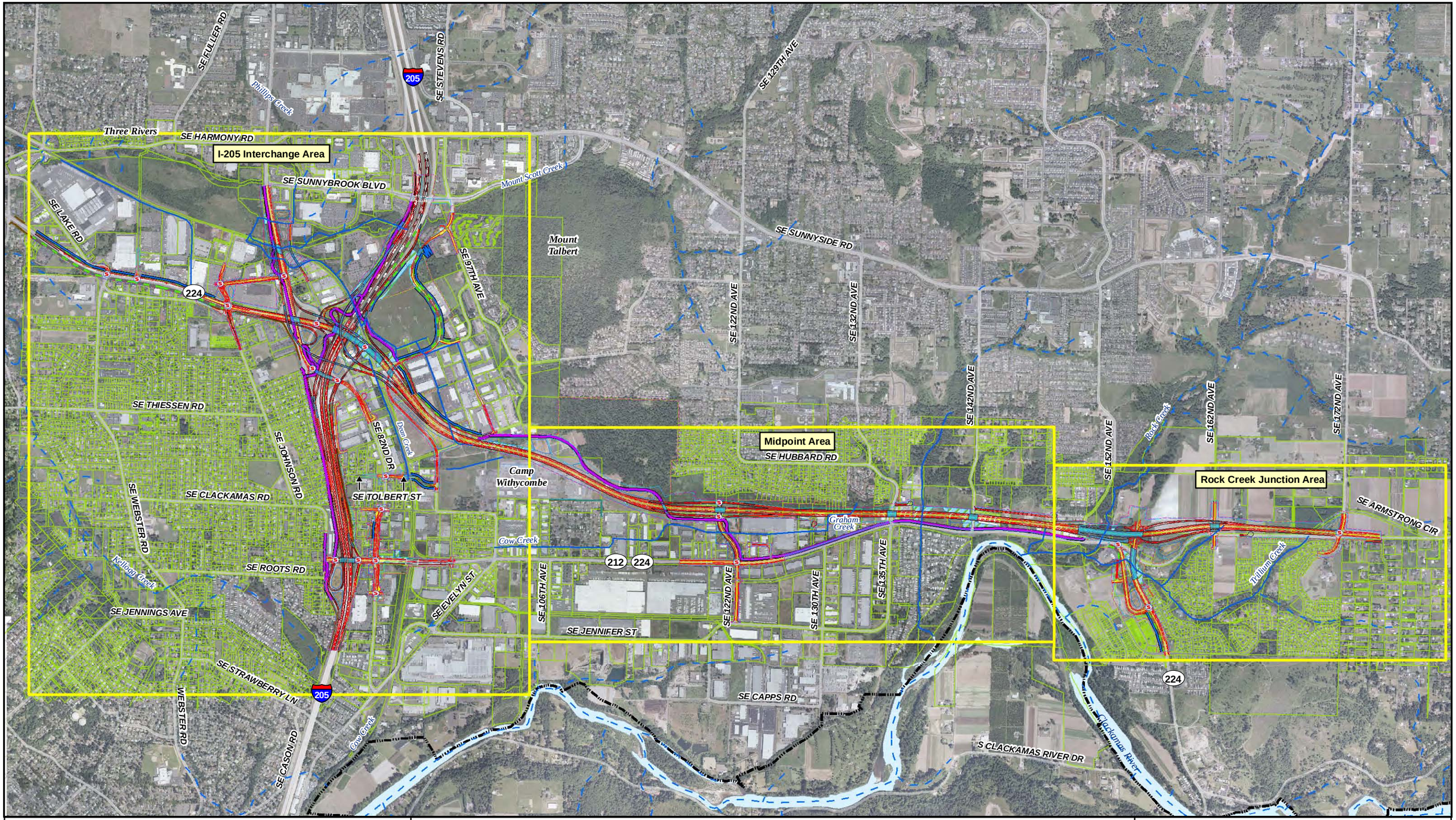


Figure 9

Comparison of Options for Rock Creek Junction Area

Sunrise Project, I-205 to Rock Creek Junction



N

2,000 0 2,000 Feet

Sources:
ODOT and Metro, Portland OR (2008-09)

Legend

- Access Closure
- Bridge Structure
- Bridge Footing
- Construction Impact Line
- Edge of Pavement (with curb)
- Edge of Pavement (with no curb)
- Lane Line
- Lane Striping
- Median
- Multi-Use Path
- Proposed Right-of-Way Line
- Retaining Wall
- Sound Wall
- Traffic Signal
- Taxlots
- Urban Growth Boundary (UGB)
- Storm Water Treatment/Detention
- Flood Plain Mitigation Site
- Bioslope
- Swale
- ODOT Verified Wetlands

Streams

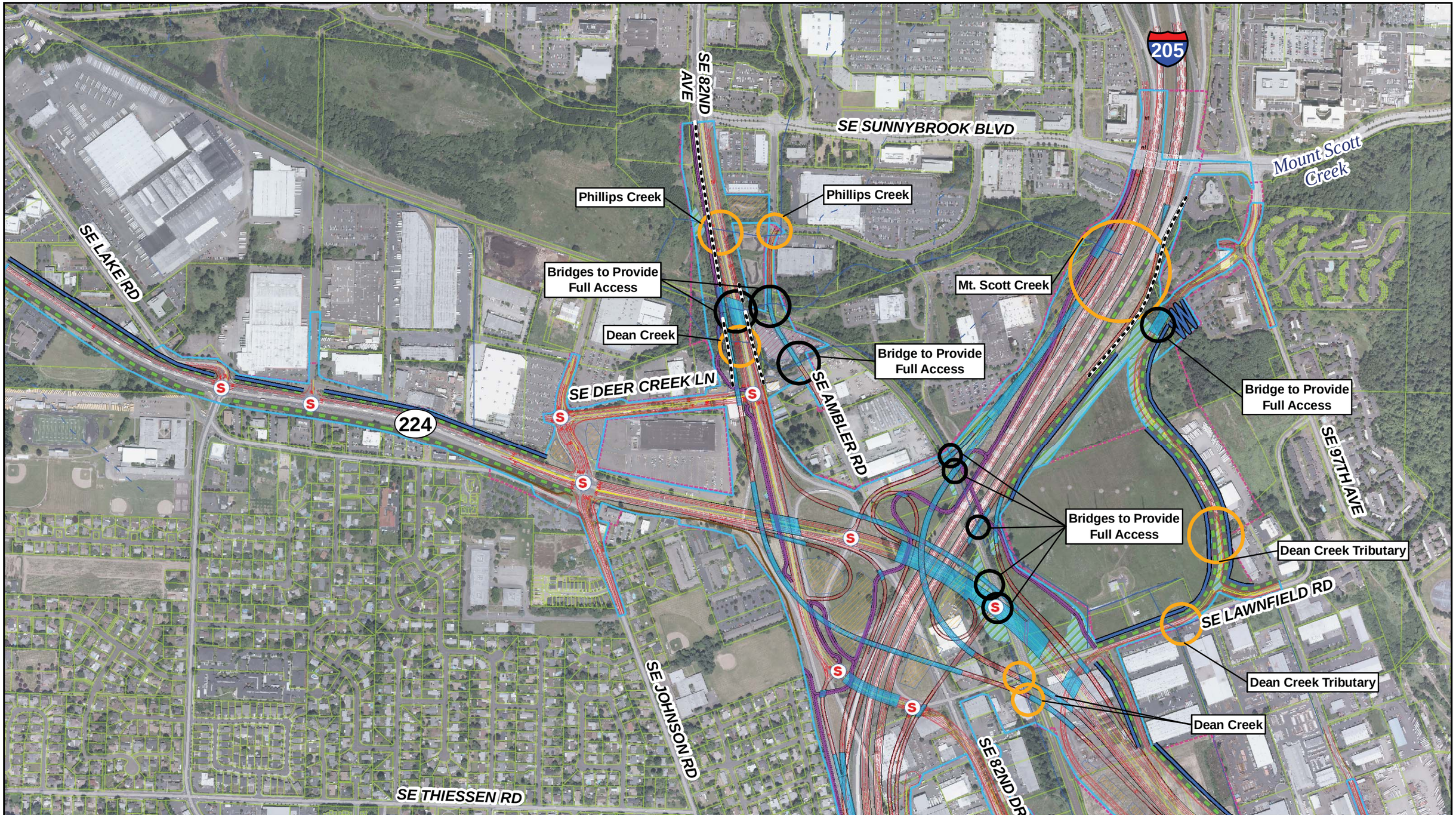
- Metro Non-Verified
- ODOT Verified

Figure PA-1

Project Area

Sunrise Project, I-205 to Rock Creek Junction

Printing Date:
File: P:\O\ODOT00000648\0600INFO\GS\arcmap\FEIS_Preliminary_Design\Preliminary_Design_Vicinity_08172010.mxd



800 0 800 Feet

Sources:
ODOT and Metro, Portland OR (2008-09)

Legend

- Access Closure
- Bridge Structure
- Bridge Footing
- Construction Impact Line
- Edge of Pavement (with curb)
- Edge of Pavement (with no curb)
- Lane Line
- Lane Striping
- Median
- Multi-Use Path
- Proposed Right-of-Way Line
- Retaining Wall
- Sound Wall
- Traffic Signal
- Taxlots
- Urban Growth Boundary (UGB)
- Exclusionary Fencing
- Storm Water Treatment/Detention
- Flood Plain Mitigation Site
- ODOT Verified Wetlands
- Bioslope
- Swale

Streams
- Metro Non-Verified
- ODOT Verified

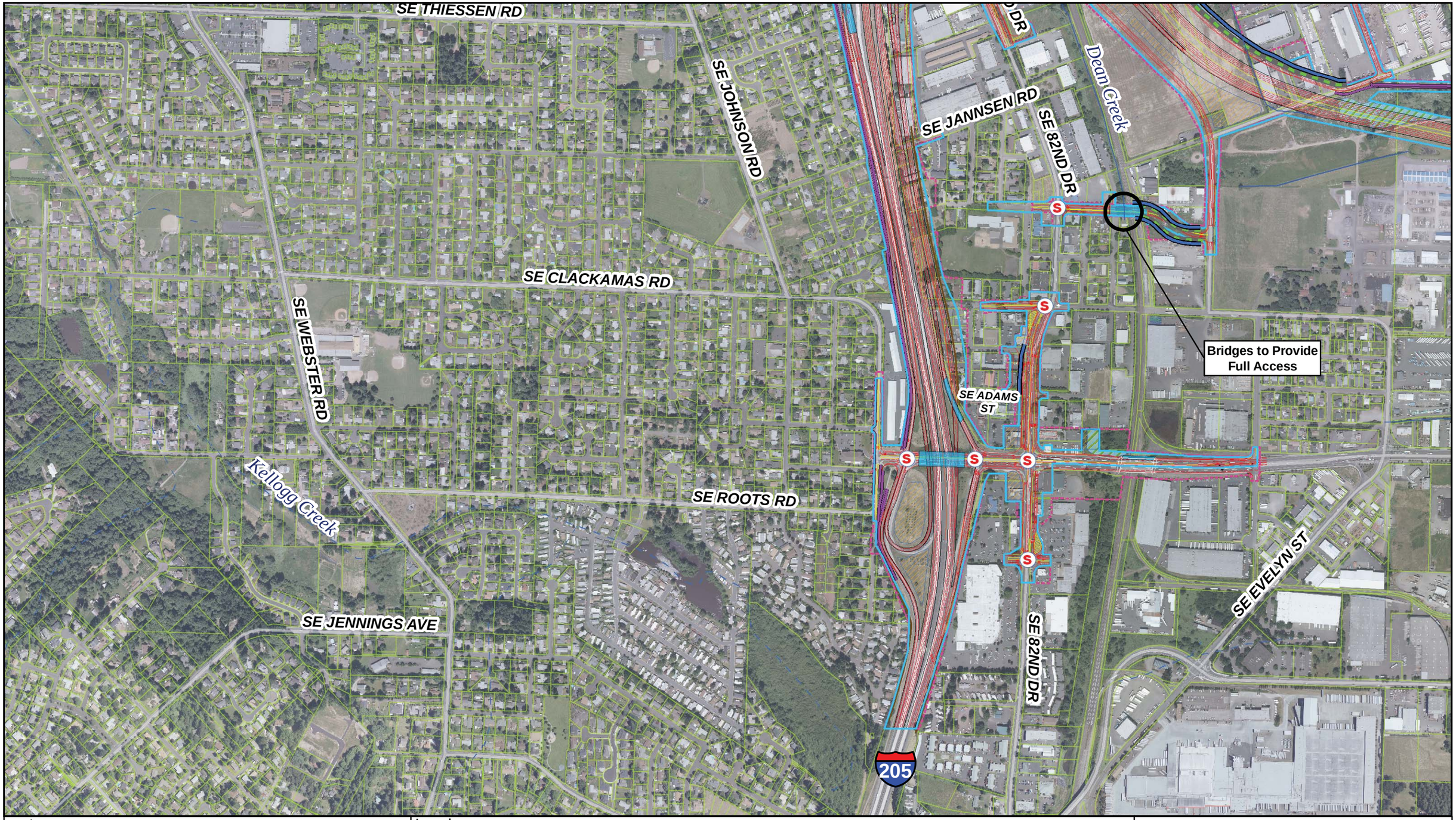
Future Bridges & Culverts/ Wildlife Passages
- Medium
- Full Access

Figure PA-2

I-205 Interchange Area - North

Sunrise Project, I-205 to Rock Creek Junction

Printing Date:
File: P:\O\ODOT00000648\0600INFO\GS\arcmap\FEIS_Preliminary_Design\PA-2_Preliminary_Design_Paneled_10192010.mxd



800 0 800 Feet

Sources:
ODOT and Metro, Portland OR (2008-09)

Legend

- Access Closure
- Bridge Structure
- Bridge Footing
- Construction Impact Line
- Edge of Pavement (with curb)
- Edge of Pavement (with no curb)
- Lane Line
- Lane Striping
- Median
- Multi-Use Path
- Proposed Right-of-Way Line
- Retaining Wall
- Sound Wall
- Traffic Signal
- Taxlots
- Urban Growth Boundary (UGB)
- Storm Water Treatment/Detention
- Flood Plain Mitigation Site
- ODOT Verified Wetlands
- Bioslope
- Swale

Streams
- Metro Non-Verified
- ODOT Verified

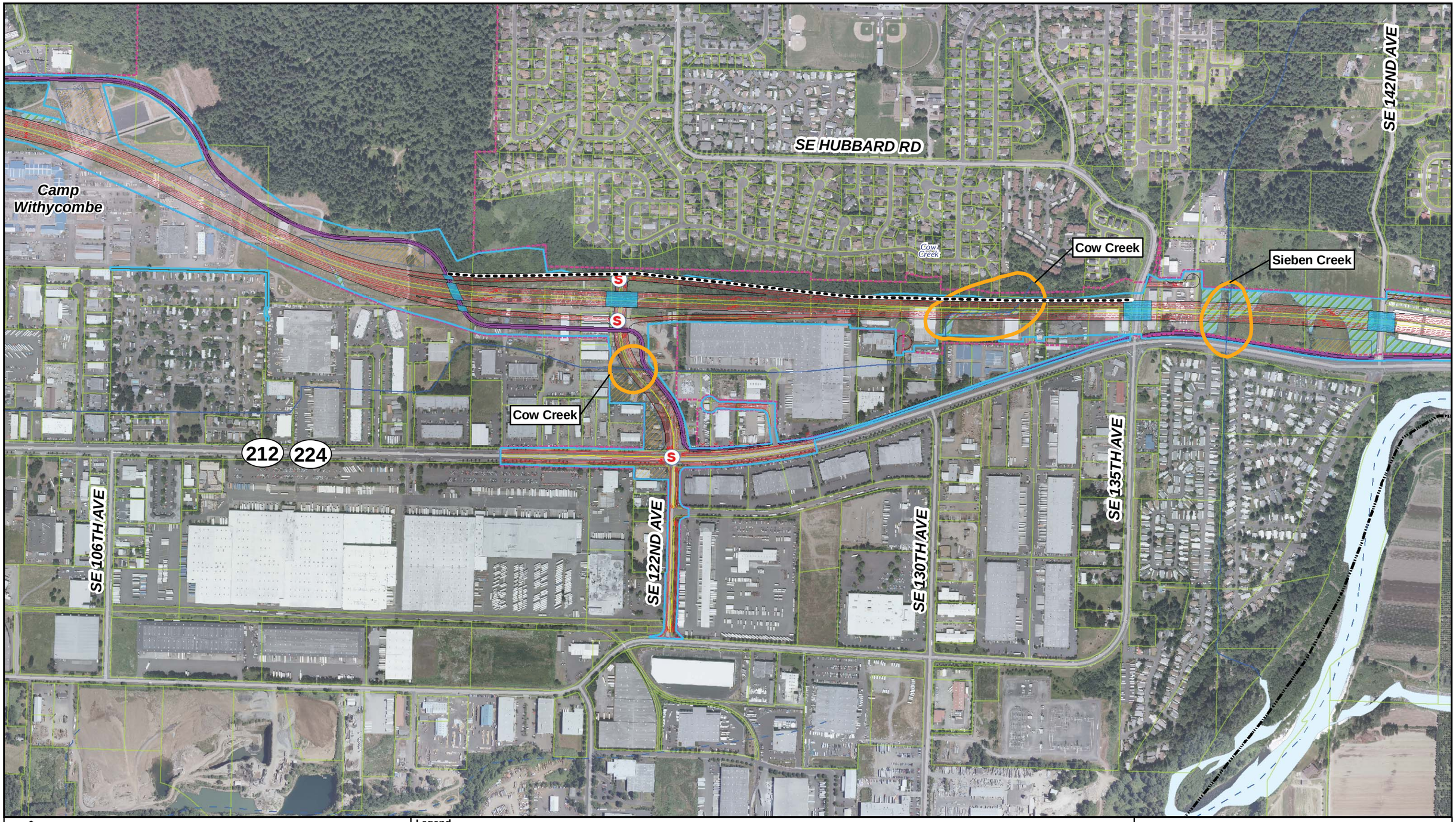
Future Bridges & Culverts/ Wildlife Passages
- Full Access

Figure PA-3

I-205 Interchange Area - South

Sunrise Project, I-205 to Rock Creek Junction

Printing Date:
File: P:\O\ODOT00000648\0600INFO\GS\arcmap\FEIS_Preliminary_Design\PA-3_Preliminary_Design_Paneled_10192010.mxd



800 0 800 Feet

Sources:
ODOT and Metro, Portland OR (2008-09)

Legend

- Access Closure
- Bridge Structure
- Bridge Footing
- Construction Impact Line
- Edge of Pavement (with curb)
- Edge of Pavement (with no curb)
- Lane Line
- Lane Striping
- Median
- Multi-Use Path
- Proposed Right-of-Way Line
- Retaining Wall
- Sound Wall
- Traffic Signal
- Taxlots
- Urban Growth Boundary (UGB)
- Exclusionary Fencing
- Storm Water Treatment/Detention
- Flood Plain Mitigation Site
- ODOT Verified Wetlands
- Bioslope
- Swale

Streams
- Metro Non-Verified
- ODOT Verified

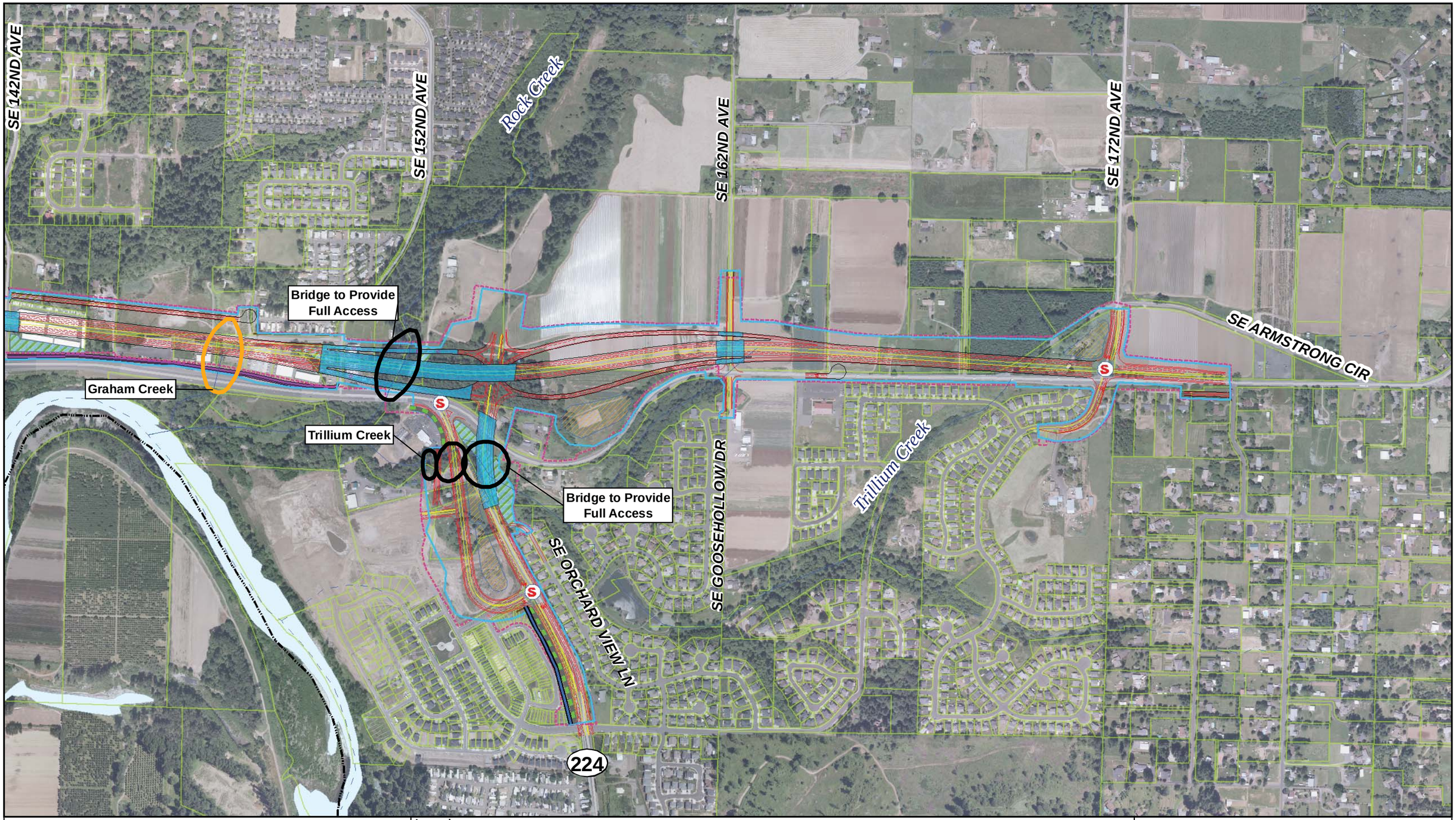
Future Bridges & Culverts/ Wildlife Passages
- Medium

Figure PA-4

Midpoint Area

Sunrise Project, I-205 to Rock Creek Junction

Printing Date:
File: P:\O\ODOT00000648\0600\INFO\GS\arcmap\FEIS_Preliminary_Design\PA-4_Preliminary_Design_Paneled_10192010.mxd



800 0 800 Feet

Sources:
ODOT and Metro, Portland OR (2008-09)

Legend

- Access Closure
- Bridge Structure
- Bridge Footing
- Construction Impact Line
- Edge of Pavement (with curb)
- Edge of Pavement (with no curb)
- Lane Line
- Lane Striping
- Median
- Multi-Use Path
- Proposed Right-of-Way Line
- Retaining Wall
- Sound Wall
- Traffic Signal
- Taxlots
- Urban Growth Boundary (UGB)
- Storm Water Treatment/Detention
- Flood Plain Mitigation Site
- ODOT Verified Wetlands
- Bioslope
- Swale

Streams
- Metro Non-Verified
- ODOT Verified

Future Bridges & Culverts/ Wildlife Passages
- Medium
- Full Access

Figure PA-5

Rock Creek Junction Area

Sunrise Project, I-205 to Rock Creek Junction

File: P:\O\ODOT00000648\0600INFO\GS\arcmap\FEIS_Preliminary_Design\PA-5_Preliminary_Design_Paneled_10192010.mxd
Printing Date: Tuesday, December 07, 2010 12:02 PM

Without the Sunrise Project: Alternative 1—No Build

By 2030, multiple transportation system improvements planned by Metro, ODOT, and Clackamas County would be built as identified in Metro's 2035 RTP and local transportation and capital improvement plans. However, planned improvements alone (shown on Figure 3, **Alternative 1 - No Build**) would not adequately address existing and predicted transportation deficiencies, because the transportation needs far outstrip available and reasonably forecast revenues.

The year 2030 transportation analysis reveals that congestion would increase substantially, with westbound traffic at I-205 lining up on OR 212/224 as far east as Carver Bridge. Traffic westbound on the Milwaukie Expressway would likely back up on SE 82nd Drive to OR 212/224. Travel time reliability would diminish throughout the OR 212/224 corridor compared with existing levels due to an increasing duration of typical weekday congestion growing from about four hours currently up to nine hours—five hours in the morning and four in the afternoon. Despite increased congestion, demand for travel in the corridor would increase and range from approximately 28,000 vehicles per day (vpd) east of Rock Creek to nearly 53,000 vpd near SE 102nd Avenue. Congestion would remain most severe where volumes are highest.

Traffic on almost all side streets would have increasing difficulty entering and exiting OR 212/224 and SE 82nd Drive.

Previous and Related Work

The Sunrise Project has been the subject of studies since the late 1980s. In the mid-1980s, ODOT conducted a reconnaissance study of the general project area or "corridor" that revealed a need for a new facility and evaluated options for different alternatives, including widening OR 212/224. The original 13-mile-long proposed Sunrise Corridor project included two segments called "units" between I-205 and US 26 (Highway 26). Unit 1 extended from I-205 to Rock Creek Junction and Unit 2 extended from Rock Creek Junction to US 26. In the late 1980s, Clackamas County, ODOT, and other public stakeholders began a process to identify the best location for the proposed highway. A Draft Environmental Impact Statement (DEIS)—Sunrise Corridor OR 212/224 (I-205 to US 26)—was published on July 15, 1993. It described and analyzed the environmental impacts associated with two highway construction alternatives and a no build alternative.

In 1996, the Clackamas County Board of Commissioners approved a conceptual alignment for Unit 1. Due to the lack of foreseeable funding, a Final Environmental Impact Statement (FEIS) was not completed, and the project was put on hold. However, the DEIS did identify a basic corridor alignment and excluded widening the existing OR 212/224 as not sufficient to meet the project purpose and need.

NEPA History

The SDEIS, published on October 13, 2008, built on the 1993 DEIS. The basis for supplementing the 1993 DEIS rather than creating a new DEIS is that the alignment for the Sunrise Project is similar to the previous alternative for the Sunrise Corridor Unit 1, and some of the existing conditions and potential impacts information collected for the 1993 DEIS, such as for cultural resources, hydrology, hazardous materials, soils and geology, and views, is still relevant. A Notice of Intent to prepare the SDEIS was published in the Federal Register in 2004. Environmental Impact Statements do not expire, but they may be supplemented when changes to a proposed project would result in significant environmental impacts not evaluated in the DEIS or if new information or

circumstances would result in significant environmental impacts not evaluated in the DEIS. In this case, an SDEIS was needed because existing conditions had changed substantially since 1993; ODOT's approach to the problems of the Sunrise Corridor had changed since 1993; and the proposed Sunrise Project is different from the Sunrise Corridor project of 1993.

All federal-aid highway projects with a Notice of Intent issued after August 10, 2005, are subject to the SAFETEA-LU Section 6002 requirements. SAFETEA-LU authorizes the federal surface transportation programs for highways, highway safety, and transit for the five-year period 2005-2009. Because the Notice of Intent for the SDEIS was published in 2004, the project is not subject to the provision of SAFETEA-LU Section 6002's environmental review process.

Purpose and Need in 1993 and 2005

In 1993, the purpose of the project was "to increase the capacity of OR 212/224 which would allow the Corridor's transportation system to safely and efficiently accommodate existing and future traffic volumes. The project would: improve the transportation route to eliminate safety problems; reduce conflicts between through and local traffic; and accommodate planned growth in the area." The need for the project was based on existing and projected traffic volumes in the project area.

The project was intended to meet the goal and objectives of the Access Oregon Highway program by connecting economic centers in the state, improving travel time, and improving capacity, safety conditions, and the local street network.

By the time the work on a revised Sunrise Project began, ODOT's approach to environmental review for transportation projects had changed. A new ODOT group—CETAS—had been formed to support environmental stewardship and streamline the environmental review process for ODOT's major transportation projects. The name CETAS comes from the agreement signed by the agencies involved: Collaborative Environmental and Transportation Agreement for Streamlining. A list of CETAS members from the participating state and federal resource agencies can be found in Appendix F.

The project's partner agencies and CETAS adopted a new Purpose and Need for the proposed Sunrise Project in 2005. The approach to the project in 2005 was different than in 1993. Previously, the project was responding to the Access Oregon Highway program, which did not account for regional system needs, and the planning pre-dated a regional land use framework and transportation plan. In addition, the urban growth boundary had expanded by 12,000 acres within the Sunrise Corridor to the east, with the incorporation of the City of Damascus. The new (2005) Purpose and Need (see page ES-5) focuses not only on effectively addressing congestion and safety problems but also on serving a regional demand for travel.

Purpose of the SDEIS

The purpose of the SDEIS was to help decision-makers and the public decide whether the project should be built, evaluate project changes, and determine how adverse impacts should be mitigated.

The SDEIS disclosed the potential impacts of the proposed action by ODOT and Clackamas County and presented information to help answer the following questions:

- Should the Sunrise Project be built?
- Should it include a midpoint interchange near SE 122nd Avenue?
- Which design options, if any, should be selected?
- Is proposed mitigation appropriate?

Members of the public, affected agencies, and other interested groups were provided copies of the SDEIS to review and were offered opportunities to comment on its content and analysis.

Purpose of the Final EIS

This FEIS accomplishes a number of different tasks. One of its purposes is to present the comments received on the SDEIS and the lead agencies' responses to substantive comments. That process is documented in Chapter 5 of this FEIS and in Appendices A and F (Public and Agency Comments and Public Involvement Materials).

Another purpose is to identify the **Preferred Alternative** and to disclose additional analysis completed following the publication of the SDEIS The format of this FEIS incorporates the original SDEIS and adds sections evaluating the **Preferred Alternative** where appropriate. Documentation of that analysis is in Chapters 3 and 4.

This FEIS documents the environmental laws, Executive Orders, and other requirements that apply to the Sunrise Project. Many requirements are required to be met prior to publication of the FEIS or Record of Decision. The section titled "Permits and Approvals Needed for **Preferred Alternative**" and Table 34 list the permits and approvals that will be obtained after the Record of Decision.

Finally, this FEIS establishes and documents the mitigation measures that the partnering agencies intend to commit to in the Record of Decision.

Summary of Impacts and Mitigation

Tables 2 and 3 summarize the potential impacts and committed mitigation. Table 2 summarizes the anticipated impacts from the Sunrise Project. The columns summarizing **Alternatives 2** and **3** exclude impacts from the design options, which are listed separately. Table 3 outlines the committed mitigation measures for the **Preferred Alternative**.

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Transportation	OR 212/224 would accommodate 4,380 vehicles during the PM peak hour	Sunrise Project would accommodate 12,400 vehicles during PM peak hour	Sunrise Project would accommodate 11,600 vehicles during PM peak hour	Design options would not measurably change capacity	Same as Alternative 2: Sunrise Project would accommodate 12,400 vehicles during PM peak hour
	9-hour continuous peak period congestion	4 hours of total congestion in AM and PM	5.5 hours of total congestion in AM and PM	Design options would not measurably affect hours of congestion	Same as Alternative 2: 4 hours of total congestion in AM and PM
		With midpoint interchange, faster travel times to midpoint area from the east and the west of the midpoint area	With no midpoint interchange, slower aggregate travel times to midpoint area from the east and the west of the midpoint area	Design option B-2 would not measurably change travel time under Alternative 2, and other design options would not measurably affect travel times	With midpoint interchange, faster travel times to midpoint area from the east and the west of the midpoint area Has least queuing and most capacity of all alternatives studied as result of adding Tolbert overcrossing (of Design Option A-2) to Alternative 2, restricted turn movements at SE 82nd and OR 212/224 and adding a lane at the west end transition
	Inconsistent with state, regional, and local transportation plans identifying a need for improved freight movement	Consistent with state, regional, and local transportation plans identifying a need for improved freight movement	Consistent with state, regional and local transportation plans identifying a need for improved freight movement	Design options would not affect consistency of Alternatives 2 and 3 with plans and policies	Consistent with state, regional, and local transportation plans identifying a need for improved freight movement
	Bike and pedestrian system unchanged except for planned improvements	Bike and pedestrian system improved by new multi-use path improvements connecting to existing I-205 trail system	Bike and pedestrian system improved by new multi-use path improvements connecting to existing I-205 trail system	Design options would not be measurably different from Alternatives 2 and 3	Bike and pedestrian system would be enhanced more than Alternatives 2 and 3: would extend multi-use path from SE 122nd Ave to Rock Creek Junction and new multi-use path improvements connecting to existing I-205 trail system

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Land Use	No conversion of existing land uses to highway use	514 acres of various uses/zoning designations converted to highway use 39 acres residential land 133 acres employment land 342 acres of other uses, including (and mostly) vacant land	495 acres of various uses/zoning designations converted to highway use 39 acres residential land 117 acres employment land 339 acres of other uses, including (and mostly) vacant land	C-3 with Alternative 2 would convert the most land (524 acres) A-2 with Alternative 3 would convert the least land (477 acres) Less conversion impacts from A-2 (-18 acres), C-2 (-13 acres), D-2 (6 acres), D-3 (-14 acres) compared to Alternatives 2 and 3 Greater conversion impacts from B-2 (+7 acres), C-3 (+11 acres)	496 acres of various uses/zoning designations converted to highway use 25 acres residential land 156 acres employment land 315 acres of other uses, including (and mostly) vacant land
	No residential displacements	72 dwelling units displaced 14 single family 24 multi family 34 manufactured homes	72 dwelling units displaced 14 single family 24 multi family 34 manufactured homes	C-2 would have fewest residential displacements (43) All other design options would result in displacement of 72 to 75 dwelling units	53 dwelling units displaced 26 single family 24 multi-family 3 manufactured homes
	No changes to driveways	132 driveways affected	91 driveways affected	A-2 (33 fewer), B-2 (45 fewer), C-2 (62 fewer), C-3 (47 fewer), D-2 (57 fewer), and D-3 (54 fewer)	188 driveways affected
	No right-of-way acquisition costs	Right-of-way acquisition $170 million (estimated)	Right-of-way acquisition $160 million (estimated)	Right-of-way acquisition slightly more ($3 to $7 million more), except for D-3 ($5 million less)	$216 million (estimated)

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Land Use, continued	Would not meet local, regional, and state policies requiring through-route for freight & congestion Congestion could reduce rate of development of future land uses	Would implement local, regional, and state policies for a through-route for freight Generally consistent with planned land uses by supporting future development	Same as Alternative 2	Same as Alternatives 2 and 3	Would implement local, regional, and state policies for a through-route for freight Generally consistent with planned land uses by supporting future development
Businesses and Communities	No changes to community cohesion or character	No isolation of neighborhoods but encroachment or removal: • Old Clackamas neighborhood affected by loss of several multi-family units, convenience commercial, and changes to driveway approaches to SE 82nd Drive • Six-unit manufactured home park community affected by removal of 4 units, remaining 2 units isolated • Sunrise Village manufactured home community removed	Same as Alternative 2	A-2 impacts same as Alternatives 2 and 3 B-2 would remove entire 6-unit manufactured home community C-2 would not remove Sunrise Village community (C-3 would) D-2 and D-3 impacts same as Alternatives 2 and 3	No isolation of neighborhoods but encroachment or removal: • Old Clackamas neighborhood affected by loss of several multi-family units, convenience commercial, and changes to driveway approaches to SE 82nd Drive • Six-unit manufactured home park community affected by removal of 3 units, remaining 3 units isolated

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Businesses and Communities, continued	Impacts to Orchard Summit Park No change to other community cohesion factors	0.18 acres of right-of-way acquisition of recreation field at Clackamas Elementary School Displaced dwellings in Clackamas and Oregon Trail Elementary school attendance areas Post office circulation to SE 82nd would change 1 church impact	Same as Alternative 2	Same as Alternative 2	0.18 acres of right-of-way acquisition of recreation field at Clackamas Elementary School Displaced dwellings in Clackamas and Oregon Trail Elementary school attendance areas Post office circulation to SE 82nd from driveway on Adams would change because Adams would be a cul-de-sac 1 church impact from change in local circulation to OR 212
	No change to businesses except indirect impacts from congestion could slow employment growth No jobs displaced	About 60 businesses affected 923 jobs displaced Conversion of employment land would reduce new job potential by 5,100 jobs	Would displace 2-3 fewer businesses than Alternative 2 920 jobs displaced Other impacts similar to Alternative 2	C-2 would displace 11 additional businesses compared to Alternatives 2 and 3 and design options A-2: 923 jobs displaced with Alternative 2 and 920 jobs with Alternative 3 B-2: 1,072 jobs displaced with Alternative 2 C-2: 946 jobs displaced with Alternative 2 and 943 with Alternative 3 C-3: 947 jobs displaced with Alternative 2 and 944 jobs with Alternative 3 D-2: 923 jobs displaced with Alternative 2 and 920 jobs with Alternative 3 D-3: 954 jobs displaced with Alternative 2 and 951 jobs with Alternative 3	About 80 businesses affected 1,037 jobs displaced Conversion of employment land would reduce new job potential by 3,563 jobs Greater impacts on businesses than Alternatives 2 and 3. Preferred Alternative uses Design Option C-2, which avoids residences, but displaces more businesses than Alternatives 2 or 3 or the other design options. Project design refinements include a wider SE 82nd Avenue to improve function, causing more business displacements.

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Businesses and Communities, continued	No travel circulation patterns changed; however, congestion is expected to be more than double the hours than for the build alternatives (see Transportation row in this table above), affecting mobility and access to and from businesses	Changes to local street circulation would require more out-of-direction travel near I-205 Interchange; SE 82nd Drive; and between SE 97th Avenue, OR 212/224, and driveways to/from subdivisions near Rock Creek Junction; not expected to change community character or cohesion Would be balanced by benefit of increased mobility through the area	Qualitatively the same impacts as Alternative 2, except that industrial access would be concentrated at the ends of the project without the midpoint interchange	A-2 would not change travel patterns as much in Lawnfield area Westbound trips to midpoint area via OR 212/224 would exit at Rock Creek Interchange, turn left to OR 212, and access OR 212/224 via the new "jug handle" Differences of other design options to alternatives are minimal	Shorter out-of-direction travel routes than Alternatives 2 and 3 between the SE 97th Avenue residential areas and Lawnfield to regional highway system with Tolbert overcrossing Two additional access points added to regional system at SE Orchard View Lane and SE 162nd Avenue to offset the closure of Goosehollow at OR 212
	No changes to property tax revenues	Property tax revenues lost by conversion of land to non-taxable use estimated at just over $42 million	Slightly less than Alternative 2, $40 million	B-2 would have greatest impact A-2 and D-3 would have least impact	Property tax revenues lost by conversion of land to non-taxable use estimated at just over $42 million

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Environmental Justice	No change	Impacts would not be disproportionately borne by EJ populations because: there are only slightly higher ratios of EJ populations in the corridor; where EJ populations are disproportionately represented, the adverse impacts of displacement and noise will be mitigated; and there will be benefits of improved safety, mobility, and transit access I-205 area has somewhat higher ratios of people below the poverty line in two US Census block groups (25% and 18%; state ratio is 12%) Other block groups north of OR 212/224 have somewhat higher ratios of non-white persons compared to the state Displacement is expected to affect 195 people of which 26 (14%) are likely to be minorities and 22 (11%) are likely to be low-income; the state ratio of minorities is 13% and of low-income people is 12% Mitigation for displacement and noise impacts will reduce impacts so they will not be high and adverse Benefits of improved mobility for all travel modes would accrue to all users	Same as Alternative 2	C-2 would have least impacts on EJ populations	Impacts would not be disproportionately borne by EJ populations because of one or more of the following conditions: there are only slightly higher ratios of EJ populations in the corridor; where EJ populations are disproportionately represented, the adverse impacts of displacement and noise will be mitigated; and there will be benefits of improved safety, mobility, and transit access I-205 area has somewhat higher ratios of people below the poverty line in two US Census block groups (25% and 18%; state ratio is 12%) Other block groups north of OR 212/224 have somewhat higher ratios of non-white persons compared to the state Displacement is expected to affect 143 people of which 12 (9%) are likely to be minorities and 21 (15%) are likely to be low-income; the state ratio of minorities is 13% and of low-income people is 12% Mitigation for displacement and noise impacts will reduce impacts so they will not be high and adverse Benefits of improved mobility for all travel modes would accrue to all users

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Visual Character and Resources	Little to no change in current visual quality	Current corridor visual quality score of 4 (average) would decline to 2-3 (low–moderately low) due to removal of vegetation; changes to utilities; more pavement, ramps, bridges, and walls (retaining or noise); new signals and lights; more headlight glare	Same as Alternative 2, except somewhat lower impact in Midpoint area without the elevated interchange and ramps, and with less mass in the landscape	Change from current visual quality score to proposed visual quality score: • A-2: from 3 to 2 • B-2: from 4 to 2.5 (average for midpoint) • C-2: from 4 to 3 • C-3: from 4 to 2 • D-2: from 5 to 2 • D-3: from 5 to 2	Current corridor visual quality score of 4 (average) would decline to 2-3 (low–moderately low) due to removal of vegetation; changes to utilities; more pavement, ramps, bridges, and retaining or noise walls; new signals and lights; more headlight glare

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Noise	Noise levels predicted to increase by 1 to 2 dBA over existing levels next to roads with no planned improvements Noise levels predicted to increase between 3 and 4 dBA next to areas with planned improvements (such as widening) SDEIS analysis: 246 units with noise levels above the ODOT noise abatement criteria (NAC) FEIS analysis: 262 units above the NAC (because the **Preferred Alternative**'s footprint is slightly larger than that of Alternatives 2 and 3, additional monitoring sites were modeled)	Noise levels next to the proposed alignment predicted to increase overall by up to 20 dBA *more* than under Alternative 1 Areas of greatest impacts would be next to and east of I-205 and adjacent to and north of Sunrise Project; some sites west of I-205 and south of existing OR 212/224 would have decreased impacts compared to Alternative 1 352 / 175* total noise impacts *Before / after abatement	Overall the same impacts as Alternative 2; some differences in specific locations due to design Differences due primarily to changes in road alignments of the road rather than from changes to traffic volumes	A-2: 182/67* total impacts compared to 174/59* for Alternatives 2/3 in same segment B-2: 134/111* total impacts compared to 144/121* for Alternative 2 and 141/118* for Alternative 3 in same segment C-2: 81/68* total impacts compared to 97/84* under Alternatives 2/3 in same segment C-3: 83/70* total impacts; fewer due to removal of residences nearest highway D-2: 31/17* total impacts compared to 25/19* under Alternatives 2/3 D-3: 24 /8* total impacts *Before / after abatement	Most increases in noise levels predicted in range of 1 to 7 dBA over existing conditions, max. increase of 21 dBA, similar locations as Alternatives 2 and 3 Reductions up to 8 dBA in some areas Pref. Alt. - 416/241* total noise impacts Note: Because the Preferred Alternative's footprint is slightly larger than that of Alternatives 2 and 3, additional monitoring sites and impacts were modeled); FEIS modeling of existing, No Build, and Pref. Alt. levels were based on new project footprint *Before / after abatement

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Air Quality	Analysis of emissions is based on the number of vehicle miles traveled (VMT), vehicle types, and vehicle speeds Increased traffic and slower travel speeds would create more emissions	VMT increases by about 20 percent for Alternative 2 compared to Alternative 1 due to more capacity for traffic growth on proposed highway No exceedance of National Ambient Air Quality Standards 2030 ADT of 93,500 vehicles indicate a low potential for mobile source air toxics impacts according to FHWA guidance	Same 20 percent increase over Alternative 1 as Alternative 2 No exceedance of National Ambient Air Quality Standards 2030 ADT of 95,700 vehicles indicate a low potential for mobile source air toxics impacts according to FHWA guidance	Design options do not change VMT levels enough to cause a noticeable change in type, amount, or concentration of emissions	20 percent VMT increase over Alternative 1 No exceedance of National Ambient Air Quality Standards 2030 ADT of 90,700 indicate a low potential for mobile source air toxics impacts according to FHWA guidance Future emission controls will result in emissions consistent with or lower than existing conditions Note: Pref. Alt. analysis used the updated EPA standards for lead, NO_2, and ozone (revised in 2008) and the addition of naphthalene to the list of compounds treated as Mobile Source Air Toxics

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Energy	Annual fuel use for operations only: 10.5 million gallons (gals.) of fuel	Annual fuel use for operations: 13.1 million gals. of fuel Construction energy: 59.1 million gals. of fuel	Annual fuel use for operations: 14.3 million gals. of fuel Construction energy: 56.3 million gals. of fuel	All options under Alternative 2 would increase fuel use in the range of 0.8 to 2.7 million gals.; under Alternative 3, only C-3 would increase fuel use, by 0.07 million gals. Construction energy with Alternative 2 (Alternative 3): • A-2: -0.7 (-0.7) million gals. • B-2: +6.3 million gals. • C-2: +0.1 (+0.2) million gals. • C-3: +0.9 (+0.9) million gals. • D-2: +2.0 (+2.1) million gals. • D-3: +2.5 (+2.5) million gals.	Annual fuel use for operations: 14.56 million gals. of fuel Construction energy: 54.7 million gals. of fuel
Greenhouse Gas	The transportation sector is the second largest source of total greenhouse gas (GHG) in the U.S., and the largest source of CO_2 emissions—the predominant GHG. In 2005, total statewide annual VMT (all roads) was 35.3 billion miles, and the Sunrise Project Corridor had an estimated 185,000 VMT, 0.00052 percent of the state total. FHWA is working with other modal administrations through the Department of Transportation Center for Climate Change and Environmental Forecasting to develop strategies to reduce transportation's contribution to greenhouse gases – particularly CO_2 emissions - and to assess the risks to transportation systems and services from climate changes. Additional information on FHWA strategies being pursued at a national level and strategies being pursued by the State of Oregon is contained in Appendix D.				

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Biology	No direct impacts on wildlife habitat	101 acres of wildlife habitat affected	98 acres of wildlife habitat affected	A-2 would reduce impacts by 3 acres to 98 acres, less impact on wildlife corridor B-2 would be 101 acres, same as Alternative 2 C-2 would reduce impacts by 8 acres to 93 acres (Alternative 2) and 90 acres (Alternative 3) C-3 would increase impacts by 10 acres to 111 acres (Alternative 2) and 108 acres (Alternative 3), and wildlife corridor would be narrower D-2 impacts same as Alternatives 2 and 3 D-3 would reduce impacts by 1 acre to 100 acres (Alternative 2) and 97 acres (Alternative 3)	94 acres of wildlife habitat affected

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Biology, continued	Minor impacts on fish habitat due to planned projects with new impervious surface	122 acres new impervious surface Beneficial impacts would be new culverts for fish passage in significant habitat areas; at a minimum, structures over Dean, Mount Scott, Sieben, and Rock Creeks would be built to provide fish passage	103 acres new impervious surface Beneficial impacts would be new culverts for fish passage in significant habitat areas; at a minimum, structures over Dean, Mount Scott, Sieben, and Rock Creeks would be built to provide fish passage	A-2: 33 acres (5 acres fewer than Alternatives 2/3) B-2: 31 acres (4 acres more than Alternative 2) C-2: 20 acres (<1 acre more than Alternatives 2/3) C-3: 22 acres (2 acres more than Alternatives 2/3) D-2: 37 acres (<1 acre more than Alternatives 2/3) D-3 38 acres (<1 acre more than Alternatives 2/3)	113.3 acres net new impervious surface 135.8 acres new impervious surface, minus 21.5 acres old impervious surface removed (see Figure PA-27A) Beneficial impacts are new culverts for fish passage in significant habitat areas; all new structures will be fish-passable and any retrofitting of crossings will be made fish passable
	No change to water quality	More impacts on water quality from stormwater runoff and more watershed effects from new impervious surface compared to Alternative 3	Less runoff and watershed effects from new impervious surface compared to Alternative 3	A-2 and C-2 would have less impervious surface B-2, C-3, and D-3 would result in most impervious surface	No impacts on water quality from new impervious surface because stormwater treatment/detentions ponds and low impact development (LID) treatment options will mitigate for slightly more impervious surface area than will be created PA analysis included 7 drainage basins (3 more than were analyzed for Alts 2 and 3) because more detailed topographical and design information was available for the PA analysis

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Biology, continued	No direct impacts to Threatened or Endangered fish, terrestrial wildlife and plants: projects with federal nexus and indirect effects from runoff in critical fish habitat could require agency consultation	No impacts to Threatened or Endangered terrestrial wildlife or plants Indirect effects from runoff from additional impervious surface in critical fish habitat likely to require formal or informal agency consultation	No impacts to Threatened or Endangered terrestrial wildlife or plants Indirect effects from runoff from additional impervious surface in critical fish habitat likely to require formal or informal agency consultation	No impacts to Threatened or Endangered terrestrial wildlife or plants Indirect effects from runoff from additional impervious surface in critical fish habitat likely to require formal or informal agency consultation	No impacts to Threatened or Endangered terrestrial wildlife or plants Indirect effects from runoff from additional impervious surface in critical fish habitat likely to adversely affect Lower Columbia River steelhead trout, Chinook salmon, and coho salmon, requiring formal ESA consultation with NMFS NMFS issued a Biological Opinion (BO) that the project may affect, likely to adversely affect the Lower Columbia River steelhead trout, Chinook salmon, and Coho salmon. The BO found that the action will not result in destruction or adversely modify designated critical habitat for Lower Columbia River steelhead trout or Chinook salmon. Conservation measures are included in the BO in Appendix D and in Chapter 3, Biology section.

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Wetlands	Possible minor impacts on roadside ditches from planned projects	32 acres of wetland removed, resulting in a loss of 80 percent of wetland functions in Sunrise Project 20 acres of palustrine emergent (PEM) wetland (see glossary for wetland definitions) 10 acres palustrine forested/ palustrine scrub-shrub (PFO/PSS) wetland 0.5 acre of PFO wetland 0.5 acre of PSS wetland 1.5 acres of PSS/PEM wetland	Same as Alternative 2	A-2 would impact about 5 fewer acres of PEM wetland; least impact on function B-2 would impact 2 acres more PFO/PSS than alternatives; highest function loss C-2 and C-3 would result in 3 fewer acres of PFO/PSS wetland affected and C-3 would affect 3 fewer acres of PEM wetland with slightly less function loss compared to Alternatives 2 and 3 D-2 and D-3 would have very minor differences to Alternatives 2 and 3	23 total acres of wetland removed, primarily east of I-205 and north of Lawnfield Road, at Camp Withycombe, and between SE 135th Avenue: and Rock Creek (Figure PA-46): • 16.2 acres of palustrine emergent (PEM) wetland • 4.0 acres palustrine forested/ palustrine scrub-shrub (PFO/PSS) wetland • 0.9 acre of PFO wetland • 0.5 acre of PSS wetland • 1.4 acres of PSS/PEM wetland
Geology and Soils	No impacts	More cut into hillside near landslide area; dewatering would be required, potentially changing adjacent underground hydrology	Less impact on slope stability compared to Alternative 2; otherwise similar impacts	No major advantage to choosing A-2, C-2, or D-2 compared to alternatives B-2 would have similar impacts to Alternative 3 C-3 would have deeper cuts than C-2 D-3 would have less excavation into basalt	More cut into hillside near landslide area similar to Alternative 2; dewatering would be required during construction and/or permanently, potentially changing adjacent underground hydrology

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Cultural Resources	No effects on archaeological resources	Three identified archaeological resources affected but eligibility was unknown in 2007. In 2009 and 2010, further investigation and review by SHPO resulted in a determination of eligibility for one of the sites and no eligibility for the other two sites	Same as Alternative 2	A-2 would affect two resources B-2 would affect two resources C-2 and C-3 would each affect one resource	On June 1, 2010, SHPO concurred with a "Finding of No Adverse Affect for Historic Properties (Archaeology)". Subsequent to the finding, a Memorandum of Agreement (MOA) was executed among FHWA, SHPO, and ODOT to resolve a Section 106 "Adverse Effect" because of incomplete survey work at an identified archaeological site, and lack of access to several properties. Appendix B has the June 2010 SHPO concurrence on the finding and the MOA. The eligible portion of one identified archaeological resource will be avoided and monitored.
Cultural Resources, continued	No effects on historic resources	One resource would be directly affected Two resources would be indirectly affected	Same as Alternative 2	A-2, C-2, D-2, and D-3 would not directly affect any resources B-2 would directly affect one resource A-2 would indirectly affect one resource	No direct effect on historic resources; SHPO concurrence of No Adverse Effect on "Section 106 Level of Effect for Historic Resources " dated July 26, 2010 attached in Appendix B Direct impacts identified for Alternatives 2, 3, and Design Option B-2 were avoided Non-adverse indirect effect on four resources (changes to setting)

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Hazardous Materials	Less risk of exposure due to no displacements	Following numbers of facilities identified as having some regulatory status: • 1 CERCLIS (NPL) • 5 CERCLIS-NFRAP • 1 CORRACTS • 22 ECSI • 34 LUST Previous agricultural uses and older buildings could pose hazards to workers Construction could disturb lead-contaminated soil at Camp Withycombe and could be affected by the soil and groundwater cleanup at Northwest Pipe and Casing	Following numbers of facilities identified as having some regulatory status: • 1 CERCLIS (NPL) • 3 CERCLIS-NFRAP • 0 CORRACTS • 19 ECSI • 32 LUST Previous agricultural uses and older buildings could pose hazards to workers Construction could disturb lead-contaminated soil at Camp Withycombe and could be affected by the soil and groundwater cleanup at Northwest Pipe and Casing	A-2 would not avoid impacting contaminated sites compared to Alternatives 2 and 3 Otherwise no particular advantage to other design options	Following numbers of facilities identified as having some regulatory status: • 1 CERCLIS (NPL) • 4 CERCLIS-NFRAP • 1 CORRACTS • 21 ECSI • 23 LUST Previous agricultural uses and older buildings could pose hazards to workers Construction could disturb lead-contaminated soil at Camp Withycombe and could be affected by the soil and groundwater cleanup at Northwest Pipe and Casing

Note: NPL, CERCLIS, CERCLIS-NFRAP, CORRACTS are databases maintained by the Environmental Protection Agency. CERCLIS lists reported known and potentially hazardous waste facilities. NPL is a subset of CERCLIS consisting of priority sites for clean-up under the Superfund Program. CERCLIS-NFRAP are CERCLIS sites where no further remedial action is planned. CORRACTS lists known producers, storers, or handlers of hazardous materials for which corrective action is being undertaken. ESCI and LUST lists are maintained by the Oregon Department of Environmental Quality. The ECSI list includes facilities where a release of hazardous substances has been confirmed, where investigation or cleanup has been initiated, and where a release of hazardous substances is suspected. The Oregon Department of Environmental Quality (ODEQ) Leaking Underground Storage Tanks (LUST) database lists belowground releases from petroleum tanks underground or reportable surface spills. The list also includes aboveground releases to water that result in a surface sheen. Some sites are on multiple lists.

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Utilities	No impacts	Numerous utilities would be affected and require relocation Costs to project currently estimated to be a minimum of $9.9 to $14.9 million	Same impacts as Alternative 2	No important differences between design options or between design options and Alternatives 2 and 3	Numerous utilities would be affected and require relocation Costs to project estimated to be a minimum of $7.7 to $28 million Would avoid a natural gas distribution station and intends to avoid impacts to the Comcast hub station, reducing costs by $6 to $8 million compared to Alternative 2 or 3 Note: Estimates of costs from impacts to the Clackamas River Water District's system are included in the total for the Preferred Alternative, but were not available in 2008 for Alternatives 2 and 3
Construction	No construction impacts	Potential lane closures and detour routes would delay some travel movements, and affect driveways for local residences and businesses Additional localized construction related traffic, noise, dust, and visual effects	Similar to Alternative 2	No important differences between design options or between design options and Alternatives 2 and 3	Potential lane closures and detour routes would delay some travel movements, and affect driveways for local residences and businesses Additional localized construction-related traffic, noise, dust, and visual effects

Table 2. Summary of Impacts

	Alternative 1—No Build	Alternative 2	Alternative 3	Design Options	Preferred Alternative (Alternative 2 + Tolbert overcrossing + Design Options C-2 + D-3)
Project Costs (2013 dollars)	N/A	$1.48 billion, includes right-of-way, mitigation, and construction costs	$1.41 billion, includes right-of-way, mitigation, and construction costs	Cost of Alternative 2 with: • A-2 or D-2: $1.4 billion • B-2: $1.6 billion • C-2: $1.3 billion • C-3 or D-3: $1.5 billion Cost of Alternative 3 with: • A-2, C-2, C-3, D-2: $1.4 billion • D-2: $1.3 billion	$1.49 billion, includes right-of-way, mitigation, and construction costs Right-of-way estimate includes administration, demolition, donated public land values, and contingency costs that were not included in the SDEIS estimates for Alternatives 2 and 3 and the design options

Mitigation measures in Table 3 include measures that rectify the potential impact by: repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and compensating for the impact by replacing or providing substitute resources or environments.

The mitigation measures in Table 3 are required by federal or state regulations and are in addition to the avoidance and minimization measures already incorporated into the **Preferred Alternative**. All of the committed mitigation measures have been reviewed and approved by ODOT designers, the ODOT District 2B (Lawnfield) Maintenance Manager, and the ODOT Region 1 Operations Manager. Cost estimates for the committed mitigation measures have been incorporated into the total project cost estimates, either in conjunction with development of **Preferred Alternative**, or within a 40 percent project cost contingency factor.

Table 3. Mitigation Commitments for the Sunrise Project

Transportation

Measures to address potential local access and circulation impacts from the **Preferred Alternative** include the following design refinements:

- SE 162nd Avenue will be extended south of OR 212 to connect with Goosehollow Drive to mitigate the closure of Goosehollow Drive at OR 224.
- A right-out (northbound) only exit from the Orchard Lake neighborhood on Orchard View Lane adds another access point to mitigate the closure of Goosehollow Drive at OR 224.
- To avoid lengthy queues of westbound traffic on the Sunrise Project/OR 224 between the I-205 interchange and Webster Road, a third westbound lane will be added.
- The intersection of SE Johnson Road and Deer Creek Lane will be revised by maintaining the existing intersection location and roadway alignments to minimize impacts to local businesses.
- New frontage roads with driveways will be built for local businesses along OR 224 (south of Rock Creek Junction), near 125th Court, and near SE 82nd Drive. The frontage roads mitigate for closures or turning movement restrictions that will occur at those locations.
- Bike and pedestrian access will be built between SE Adams and SE 82nd Drive to better accommodate the high demand of bicyclists and pedestrians accessing the post office from SE 82nd Drive.
- A connection between SE Ambler Road and SE Jasmine Lane will be built on a structure over the rail corridor to improve circulation for businesses in that area. This allows for the businesses west of I-205 and east of SE 82nd Avenue to have access to their properties. Building the connection on a structure avoids impacting the rail corridor.
- Construction of cul-de-sacs at several locations near Hubbard Road, SE 142nd Avenue, SE 162nd Avenue, and SE 82nd Drive will be provided as parts of new access roads and will mitigate either closure of existing accesses, or provide turn-around points due to closure of existing intersections or roadways.
- A local circulation road will be constructed between SE Adams and SE St. Helens along SE 82nd Drive to mitigate for turning movement restrictions or closures of some driveways and intersections on SE 82nd Drive.
- Prior to construction, traffic analysis will be conducted to determine if signal warrants will be met at SE 82nd Drive at SE Jannsen Road.

Land Use

Direct property acquisition and relocation impacts would be mitigated through financial compensation regulated in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act) 42 U.S.C. 4601 et. seq., 49 CFR Part 24, Oregon Revised Statutes, Oregon Department of Transportation guidance, and Federal Highway Administration Federal Aid Policy Guide. Tax lots that would become land-locked as a result of the project removing the existing driveway will either receive a new driveway or will be acquired outright.

ODOT and KEX/Clear Channel jointly acknowledge existing technology does not allow for the forecasting/modeling of potential future impacts to the radio station signals from construction of elements of the Sunrise Project before construction. Therefore, the mitigation measures reflect commitments to pursue an agreed-upon strategy for assessing potential impacts to Clear Channel radio station signal viability from construction of the Sunrise Project.

Table 3. Mitigation Commitments for the Sunrise Project

Prior to FHWA authorization of construction of major structures near the KEX/Clear Channel transmission site:

- ODOT will retain a radio expert to assess impacts to transmission signal attributable to the construction of the Sunrise Project.
- If adverse impacts on radio transmission signal strength and coverage are realized from project construction, on-site mitigation efforts to address these impacts will be pursued first. (On-site mitigation efforts are estimated to cost approximately $3.5 million to $7.0 million, and are included in the total project cost estimate.)
- If such on-site mitigation efforts do not prove feasible, appropriate off-site mitigation efforts will be pursued. (Off-site mitigation efforts are estimated to cost approximately $15 million to $25 million, and are included in total project cost estimate.)

Parks and Recreation

Three mitigation measures will minimize the impacts on the Clackamas Elementary School recreation field, as follows: (1) move the softball backstop playing area to the east, (2) move the jogging trail to the east, and (3) build a sound wall to buffer the site from the noise of I-205. The combined effect of these measures will minimize the impacts to the school recreation field and improve the quality of the recreational experience overall.

Businesses and Communities

Temporary Construction Impacts

A construction management plan will be developed that supports the continued operation of business districts and the livability of neighborhoods.

Relocation

Mitigation will be provided to individual businesses and residents by purchase and relocation. This purchase and relocation must follow the requirements of the Uniform Act. The Uniform Act provides protections and assistance for people affected by the acquisition, rehabilitation, or demolition of real property for federal or federally-funded projects. The law helps ensure that people whose real property is acquired, or who move as a direct result of projects receiving federal funds, are treated fairly and equitably, and receive assistance in moving from the property they occupy. Federal law also addresses partial takes of property, addressing how payment and assistance to reconfigure the business and residence must take place.

Business and Neighborhood Access

Multiple mitigation measures related to access have been incorporated into the project; see proposed measures under Transportation, above.

Community Cohesion

The change in access to Sunnyside Community Church will be mitigated by installing two directional signs on OR 212/224.

Environmental Justice

No mitigation measures suggested beyond the assistance already provided under federal law and mitigation measures suggested for relocation under Land Use and Businesses and Communities and for noise impacts under Noise. All households will be provided relocation assistance if they are renters and purchase and relocation assistance if they are owners. Sound walls E205N-3 and E205S-5 proposed for the east side of I-205 (see Noise section) will reduce the noise levels in the neighborhood below their current levels after the Sunrise Project is completed. These block groups have higher than state levels of poverty.

Visual Character and Resources

I-205 Interchange Area

Mitigation Location A (Figure PA-17): Because a noise wall is planned in this location, no mitigation measures are proposed for visual impacts.

Midpoint Area

Mitigation Locations D and E (Figure PA-18): In these locations, vegetation will be planted to screen residential viewers from direct vehicle light and glare. The planting will be done in an appropriate manner consistent with ODOT's Roadside Development Design Manual (ODOT 2006).

Rock Creek Junction Area

Mitigation Location F (Figure PA-18): No noise wall is planned in this location.

Thus, as much as possible existing vegetation would be retained in order to maintain the vegetative screen between viewers and the new interchange.

Mitigation Location G (Figure PA-18): In this location, vegetation would be planted to screen residential viewers from direct vehicle light and glare. The planting would be done in an appropriate manner consistent with ODOT's Roadside Development Manual (ODOT 2006) and bridge design will be consistent with ODOT's Bridge Design and Drafting Manual (ODOT 2004).

Mitigation Locations H and J (Figure PA-18): In these locations, vegetation will be planted to screen residential viewers from direct vehicle light and glare. The planting will be done in an appropriate manner consistent with ODOT's Roadside Development Manual (ODOT 2006).

Note: There are no mitigation measures proposed for locations B, C, and I. See Visual Character and Resources section in Chapter 3 for visual conditions at those locations.

Table 3. Mitigation Commitments for the Sunrise Project

Noise

The project will comply with the construction noise abatement measures contained in ODOT's Standard Specifications, Section 00290.32.

Permanent noise impacts will be mitigated through construction of noise walls where they meet ODOT's reasonable and feasible criteria. Based on existing modeling and current design for the **Preferred Alternative**, the following noise walls are proposed (as shown in Figures PA-19 through PA-20):

- Noise Wall W-2
- Noise Wall J-1
- Noise Wall J-2
- Noise Wall E205N-3
- Noise Wall W205S-4
- Noise Wall E205S-5
- Noise Wall ZM-6

If during final design conditions have substantially changed, noise abatement may not be necessary. The final decision of the noise abatement will be made upon: (1) completion of the project design, which occurs following the ROD and (2) the completion of the public involvement processes as outlined in ODOT's Noise Manual.

Air Quality

No long-term mitigation is required or included. Construction contractors are required to comply with Division 208 of OAR 340 which addresses visible emissions and nuisance requirements and with and ODOT standard specifications, Section 290.30 (c) for air emissions during construction, including new 2008 controls on diesel-powered vehicles.

Greenhouse Gas

No long- or short-term mitigation is required or included.

Energy

No long- or short-term mitigation is required or included.

Biology

Wildlife

To minimize long-term wildlife access impacts and reduce animal-vehicle collisions:

a. Where 'full wildlife access' (meaning access to all species, regardless of size) is specified in the bulleted lists below and on Figures PA-2 through PA-5, it will have a minimum 10-foot-wide horizontal and vertical clearance (or greater, with some bridges), with adjacent exclusionary fencing (either along the highway and/or connected to wing walls of crossings) that will 'direct' wildlife away from the highway and towards crossings.

b. Where culverts to allow for 'medium wildlife (e.g., smaller than deer) passage' are specified in the bulleted lists below and on Figures PA-2 through PA-5, they will be culverts with a dry bench (earthen, concrete, or metal grate; above two-year flood elevation) at least three feet wide and tall, or an adjacent dry culvert at least three feet in diameter. They will include a 'ramp' sufficient for access onto the bench or into the dry culvert.

See Figures PA-2 and PA-3 for locations of exclusionary fencing and wildlife passage locations in the I-205 area.

SE 82nd Avenue (OR 213)/Mount Scott Creek and Railroad Bridge

- Exclusionary fencing along SE 82nd Avenue and the freeway will be installed.

SE 82nd/Ambler Road/Dean Creek Culverts

- New culverts (including replacement or extended culverts) will allow for medium wildlife passage.
- New culverts longer than 80 feet will have roadbed grates for natural light and ventilation.
- Exclusionary fencing along SE 82nd Avenue and the freeway will be installed.

I–205/Dean Creek Crossing

- The crossing will provide for full wildlife access.

I–205/Mount Scott Culvert and Vicinity

- The interior of the existing culvert will be modified to include a bench (concrete or metal grate) that allows medium wildlife passage through the culvert above the two-year flood elevation, including a sufficient 'ramp' for access onto the bench.
- Existing right-of-way fencing along the south side of I–205 between Dean and Mount Scott Creeks will be removed and new right-of-way fencing will allow for full wildlife access.

Table 3. Mitigation Commitments for the Sunrise Project

See Figures PA-4 and PA-5 for exclusionary fencing and wildlife passage in the Midpoint and Rock Creek Junction areas.

Clackamas Bluffs (Camp Withycombe to Rock Creek)

- Maintain full wildlife access, along the northern right-of-way of the new highway.
- Avoid right-of-way fencing along the northern right-of-way boundary to maintain connectivity with existing forested habitat.
- Direct highway lighting away from the forested bluffs.

Culverts at Sieben, Graham, and Trillium Creeks

- New culverts (including any replacements for existing culverts) shall be designed to allow for medium wildlife passage.
- New culverts longer than 80 feet will have roadbed grates for natural light and ventilation.

Rock Creek Bridge

- The bridge and embankments underneath the bridge will be designed to span the existing terraced landscape along west side of the stream.
- Full wildlife passage will be ensured through the two bridged crossings in the Rock Creek area (OR 212/224 and OR 224) by one or more of the following measures: minor hand-grading to create a path (where geologically stable and where does not require tree removal), clearing invasive weeds, revegetation with native plants or shrubs to help prevent re-growth of weeds.

Plants

Because there are no sensitive plant impacts, no mitigation measures related to sensitive plants are proposed.

To address noxious weeds, as part of construction and post-construction landscaping, the contractor will be required to remove invasive weeds and landscape with natives to discourage infestation of weeds.

Fish Habitat

Project will comply with all terms and conditions of the NMFS Biological Opinion.

Water Quality

Best management practices in accordance with ODOT Standard Specifications (in Sections 280 and 290 will be used to control or prevent the movement of sediments.

The project will treat runoff from 247 acres of impervious surface (all but 16 acres of total 263 acres) within the project area including existing and new as well as contributing areas. The project will compensate for 16 acres of untreated on-site stormwater runoff by treating stormwater runoff from equal areas of impervious surface at off-site locations. These proposed off-site locations are two existing segments of I-205 located immediately north of the project area and south of the project area, from which stormwater is not currently collected and treated (see Figures PA-45A through PA-45C).

Endangered Species

The project will implement all terms and conditions from the NMFS Biological Opinion.

Wetlands

Wetland impacts will be mitigated through the purchase of 22.9 credits at an approved wetland mitigation bank. The project area lies entirely within the service area of the Foster Creek Mitigation Bank. The mitigation bank currently has sufficient credits to cover the needs of the project. If available credits from the Foster Creek wetland mitigation bank are insufficient to mitigate all impacts when the project goes to construction, ODOT will identify a site where an ODOT-developed wetland mitigation site will be provided to accommodate mitigation for the Sunrise Project.

Table 3. Mitigation Commitments for the Sunrise Project

Geology and Soils

Groundwater

Where present, impacts to shallow groundwater will be mitigated with dewatering. Dewatering will either be temporary, to accommodate temporary excavations, or permanent with the installation of drainage, in areas where the natural drainage paths are blocked by the addition of embankment fill. Details of any permanent drainage improvements/modifications will be developed during final design with input from the civil engineer.

Erodible Soils

Erosion will be mitigated during construction by compliance with ODOT's Standard Specifications, Section 280 and Clackamas County erosion protections/control requirements.

Stability of Cut Slopes and Excavation

Avoid impact to the toe of the existing slopes at landslide areas (i.e., the Camp Withycombe and Eastern landslides) and local slopes located between Camp Withycombe and SE 135th Avenue (See Figure PA-47). Filling along the toe of the slope may be possible provided further evaluation of the mapped landslides and steep slopes indicates that doing so would improve stability.

If grading along the slopes cannot be avoided, slope drainage (dewatering) will be installed, excavation (cut) will be limited to short segments, and temporary and permanent retaining structures, or rock buttresses will be installed. Such measures would require further detailed evaluation of the mapped landslides and steep slopes and development of appropriate mitigation recommendations during preliminary engineering design.

Embankment Fill and Settlement

A site-specific geotechnical investigation will be performed to estimate the potential damage and required mitigation resulting from embankment dead loads.

Soft, compressible soils will be removed or replaced and ground/soil improved with either deep soil mixing or installation of displacement piles or reamed aggregate piers.

Seismically-Induced Liquefaction

Liquefaction settlement, where present, will be mitigated under embankment fills with ground improvement methods such as installation of rammed stone piers, stone columns, and removal and replacement of soft and potentially liquefiable soils. Bridge foundations will be supported on pile foundations bearing on dense gravels that are present beneath potentially liquefiable deposits, as appropriate.

Cultural Resources: Archaeological Resources

The following measures were approved as part of SHPO concurrence (letter dated June 1, 2010) with an evaluation of archaeological site 35CL330. A copy of the documentation for the site is included in Appendix B.

To minimize impacts to site 35CL330, ODOT adjusted the design of the proposed flyover structure to relocate the concrete footings (piers) outside of the portion of the site that is recommended eligible for listing in the NRHP. Two pier locations were moved to the southwest to avoid the significant portion of 35CL330. The proposed piers will be constructed by first drilling deep shafts measuring 1.2 to 1.8-meters (4 to 6-feet) in diameter, which anchor the concrete piers in the ground. The depth of the drilled shafts will depend upon the results of the geotechnical borings. Spoils from the drilling will be placed outside of the eligible portion of site 35CL330, and all equipment necessary for drilling the shafts and constructing the piers will be directed to stay outside of the eligible portion of site 35CL330.

Geotechnical borings will be used to test the soil at site 35CL330 for suitability for construction. The methods of constructing the proposed scaffolding and falsework within the eligible portion of site 35CL330 will depend upon the suitability of the soil. ODOT will direct contractors to develop a falsework plan that does not extend below the ground surface within the eligible portion of site 35CL330. Based on the results of the geotechnical borings, if it is determined that the soil is suitable for being built upon, then one or more of the following options will be used for construction of the falsework:

- Geotextile fabric and a layer of crushed rock could be placed over the eligible portion of site 35CL330 for construction of the falsework. The layer of rock would be later removed.
- An above-ground cribbing plan could be developed to support the falsework.

If soil is not suitable for construction, then the following options would be possible:

- A falsework construction plan, supported by beams that span the site.
- An alternative structure span, possibly steel, to span the eligible portion of site 35CL330.

During construction, the following measures will be implemented for site 35CL330:

- Archaeological monitoring of construction activities; ODOT will notify the Confederated Tribes of the Grande Ronde prior to construction activities so they may elect to have a tribal representative present on-site during any ground disturbing fieldwork by project consultant archaeologists.
- Fencing will be placed outside of the significant portion of the site and will include a 5-meter (16-foot) buffer wherever possible.
- Where vehicles and equipment would travel over the eligible portion of site 35CL330, construction mats and/or geotextile cloth and/or layers of crushed gravel or fill dirt will be installed.
- Development of a vegetation management plan, in consultation with the Confederated Tribes of the Grand Ronde

Table 3. Mitigation Commitments for the Sunrise Project

Community of Oregon, to prevent future disturbance and looting of site 35CL330. Mature plant roots should not extend below a depth of 30 centimeters (12 inches) below the ground surface, which is the depth to which the site has been previously disturbed. Placement of a layer of shallow fill may be another option to allow for deeper plantings.

Surveys on seven privately-owned parcels were not completed. They are near SE 142nd Avenue , SE Morning Way, OR 212, and near or abutting OR 212/224 (west of 152nd Avenue and north of the highway, and west of 122nd Avenue south of the highway). If the parcels are acquired by local or state agencies, a State of Oregon Archaeological Permit, issued by the State Historic Preservation Office, would be necessary to conduct exploratory excavations to determine if buried archaeological deposits are present on public land. A Memorandum of Agreement detailing the requirements for future work is included in Appendix B of the FEIS. No previously-recorded resources are on the unsurveyed parcels.

No mitigation measures are required for the proposed project related to historic resources because no adverse impacts are anticipated to historic resources located on tax lots in or adjacent to the **Preferred Alternative** (see Appendix B for a copy of the letter of concurrence from SHPO, dated July 26, 2010).

Hazardous Materials

Plans and surveys will be developed to mitigate exposure to potential hazardous materials issues during construction, in accordance with ODOT's Standard Specifications, Section 00280 - Erosion and Sediment Control, and Section 00290 - Environmental Protection.

ODOT will prepare site-specific Hazardous Material Assessments (Phase I Environmental Site Assessments) prior to the purchase of private and public land for new right-of-way. The preparation of Hazardous Material Assessments will assist in the identification of environmental liabilities associated with a particular parcel. Additionally, Hazardous Material Assessments are required prior to the purchase of new right-of-way when federal funding is involved and by ODOT internal policy. ODOT will prepare a Phase II Environmental Site Assessment (Phase II ESA) for all properties requiring one, as determined during the Hazardous Materials Assessment site reconnaissance.

Camp Withycombe Contaminated Media Management Plan

Although lead-containing soils have been remediated at Camp Withycombe, the cleanup criterion was 400 mg/kg. It is possible that areas planned for the **Preferred Alternative** construction will involve the disturbance of soil that can contain up to 400 mg/kg lead. Therefore, a Contaminated Media Management Plan that addresses the procedures for proper soil management and proper worker health and safety training with regard to lead-containing soil will be prepared for the construction activities.

Pedestrian access to surface soils will be limited (e.g., covering surface with clean fill, installing fencing) where trails cross the areas of lead-containing soils.

Consent Decree and Easement and Equitable Servitude for the Northwest Pipe & Casing Site.

The **Preferred Alternative** crosses a National Priority List facility, Northwest Pipe & Casing, which is currently under a Consent Decree between ODOT and the United States of America. The Consent Decree has established ongoing obligations for the long-term management of this property that include institutional controls, not interfering with the remedy at the site, and retaining the integrity of the remedy at the site. The Easement and Equitable Servitudes agreement was recorded with Clackamas County (Clackamas County Official Records, 2009) and establishes legal requirements for ODOT in relation to the Northwest Pipe & Casing property. In particular, the document references the proposed "Sunrise Corridor Project" where ODOT "shall integrate the Sunrise Corridor Project with investigative and remedial activities initiated or planned by ODEQ or EPA to the maximum extent feasible, as required by Section 6 of the Consent Decree." The reader should refer to the Easement and Equitable Servitudes and the Consent Decree documents attached in Appendix D for details.

In summary, the restrictions on the site are:

- Groundwater use restrictions (does not apply to dewatering activities related to construction, development, or the installation of sewer or utilities at the site).
- Maintaining the functional integrity of the soil cap on Parcel B (map is attached to the Consent Decree, attached in Appendix D).
- Access restrictions (security of groundwater treatment system from damage by third parties).
- Land use restrictions that prohibit residential and agricultural uses.
- New construction and the evaluation of whether vapor intrusion controls must be implemented to prevent migration of site contaminants into on-site buildings.
- Notice of transfer of the site to other parties.
- Development (such as the Sunrise Corridor Project) and written approval after plan and activity review by ODEQ.
- Zoning changes.
- Partition.

Utilities

No short- or long-term mitigation is required or proposed.

Permits and Approvals Needed

This section outlines anticipated permits, approvals, and licenses anticipated when the SDEIS was published. Table 4 lists approvals and permits needed for the **Preferred Alternative**.

U.S. Army Corps of Engineers

- Federal Clean Water Act Section 404 (individual permit).
- Pre-Construction Assessment for in-water work (with Oregon Department of State Lands).

Clackamas County

- Noise variance if construction activities were to occur between 10 p.m. and 6 a.m.
- Clackamas County Planning Department: Conditional use permit for new cell towers or co-locations of additional antennas.
- Clackamas County Engineering Department: Utility placement permits for relocation of utility lines outside of a county road right-of-way.
- Water Environment Services: Sewer and stormwater permits required only for state (not county) projects.
- National Pollutant Discharge Elimination System (1200-C).

Federal Highway Administration

- Section 106 determination with Memorandum of Agreement.
- Section 4(f).

U.S. Fish and Wildlife Service

- Migratory Bird Treaty Act.
- Fish and Wildlife Coordination Act.

National Marine Fisheries Service

- Endangered Species Act of 1973 (Public Law 93-205) Section 7 Consultation.
- Magnuson-Stevens Fishery Conservation and Management Act.

Oregon Department of Fish and Wildlife

- Oregon Fish Passage Rules.
- Fish and Wildlife Habitat Mitigation Policy.
- Oregon Endangered Species Act.

Oregon Department of State Lands

- Removal/Fill Permit (Joint Permit Application with the Section 404 permit).
- Wetland Delineation Concurrence.

Oregon Department of Transportation

- Permit for relocation of utility lines in a state road right-of-way.

Oregon Department of Environmental Quality

- Federal Clean Water Act, Section 401.
- Oversight of hazardous materials issues.
- Site preparation permits for grading, erosion, blasting, and air and noise emissions.

Table 4. Approvals and Permits Still Needed for Preferred Alternative

Issuing Agency	Permit/Approval	Purpose	Conclusion
Federal			
US Army Corps of Engineers	Clean Water Act, Section 404	For placing fill in waters of the U.S.	Prior to bid let Joint Permit Application is the application form for both the Section 404 permit and the DSL Removal/Fill Permit
Federal Emergency Management Agency	(Conditional) Letter of Map Revision (CLOMR/LOMR)	When changes to a floodplain are due to new construction and involve changes to a previously established floodway	Prior to FHWA authorizing construction funding
State			
Oregon Transportation Commission	Interchange Area Management Plan(s) (IAMPs)	Required to plan for land use and access at interchanges. The IAMPs are: • Sunrise West IAMP • Midpoint IAMP • Rock Creek Junction IAMP	Each IAMP will be approved by the OTC prior to the commencement of construction of each interchange
Oregon Department of State Lands	Removal-Fill	For removal or filling in waters of the state	Prior to FHWA authorizing construction funding
	Section 401 Water Quality Certificate	Issued in conjunction with the Corps Clean Water Act, Section 404 permit	Before construction, preferably prior to bid let
Oregon Department of Fish and Wildlife	Fish Passage Consultation	Prior to replacement of culverts, the owner or operator must obtain approval through consultation of a plan for providing fish passage	Prior to FHWA authorizing construction funding
Oregon Department of Environmental Quality	Air Contaminant Discharge Permit	Construction-related activities, such as concrete batch plants and asphalt batch plants	Prior to FHWA authorizing construction funding
Oregon State Historic Preservation Office	State of Oregon Archaeological Permits	For any excavations in known archaeological sites or for exploratory excavations to determine if archaeological deposits are present on lands owned by local or state agencies	Before FHWA authorizes construction funding Seven parcels require additional archaeological survey work. ODOT, FHWA, and SHPO developed an MOA to outline the process for this work to occur after the properties are acquired for the project

Issuing Agency	Permit/Approval	Purpose	Conclusion
Local			
Clackamas County, Land Use and Planning Division	Land Development Permit	For any new structures or uses outside of the right-of-way	Before building permit applications
	Habitat Conservation Area District	For proposed modification of land within mapped Habitat Conservation Areas and floodplains; e.g., road crossings of surface waters	Before building permit applications
	Floodplain Permits	Any floodway or flood fringe modification	Before any modifications
	Utilities Permit (no official name)	Some utility relocations may require a land use application submittal	Before building permit applications
Clackamas County, Building Codes Division	Building Permits	For any structures: buildings, bridges, walls, etc. built outside of the current or future public right-of-way	Before construction
	Grading Permit	Grading, site preparation for any grading outside of the right-of-way	Before construction
Clackamas County Service District No. 1	Stormwater Permit	Facilities for water quality treatment and potential detention	Before construction
	Natural Resource Assessment & Buffer Variances	In sensitive areas and buffers to stream, rivers, wetlands, etc., if there are impacts to the resources and/or their buffers	Before construction
Clackamas County (delegated by Oregon Department of Environmental Quality)	NPDES/1200-C	Construction stormwater & erosion control	Before construction
Clackamas County, Engineering Division	Development Permit Application for Site and Road Work	For road work within existing County right-of-way	Before construction
Clackamas County, Sheriff	Noise variance	If construction activities are expected to occur at night between 10 p.m. and 6 a.m.	Before nighttime construction begins
City of Damascus	Rock Junction IAMP	Adoption of IAMP as part of future Comprehensive Plan and Transportation System Plan	Before construction
City of Happy Valley	Sunrise West IAMP Midpoint IAMP Rock Creek Junction IAMP	Adoption of IAMP as part of updates to Comprehensive Plan and Transportation System Plan	Before construction

Characteristics of a Good Solution

There are and will continue to be serious congestion and safety issues in the project area. The process of developing alternatives showed the variety of ways that the transportation problems could be addressed. But addressing transportation issues is likely to have spillover impacts of some kind. For example, one solution might call for a bigger road, but a larger footprint would generate greater impacts on adjacent land uses and the natural features. Studying the variety of proposed solutions at the same time reveals key constraints to building the proposed Sunrise Project, such as the potential displacements of residents and businesses or impacting habitat for threatened or endangered species. Other issues are raised during meetings with the public.

The project area constraints and project-related issues raised by the public have been reflected in goals and objectives that were developed from the Purpose and Need for the project. In other words, the goals and objectives derive from the Purpose and Need but reflect the environmental context specific to the Sunrise Project area. The project committees adopted the goals and objectives through the project development process. The goals and objectives are used to compare the pros and cons of each potential solution, thereby highlighting the trade-offs inherent in choosing one alternative or design option over another.

In short, a good solution has to be one that meets the Purpose and Need for the project and that is most consistent with the goals and objectives.

The project has the following four goals:

- **Goal 1**. Provide east-west transportation improvements from I-205 at the Milwaukie Expressway to the Rock Creek Junction to meet existing and future safety, connectivity, and capacity needs for statewide and regional travel within the OR 212/224 corridor.
- **Goal 2.** Provide transportation improvements that support the viability of the Clackamas area for industrial uses.
- **Goal 3**. Support community livability and protect the quality and integrity of residential uses within and adjacent to the corridor.
- **Goal 4**. Provide a facility that minimizes and effectively mitigates adverse impacts to natural and cultural resources within the project corridor.

For each goal, there are objectives and evaluation measures. Table 5 presents the objectives under each goal and the measures proposed to evaluate the success of an alternative in meeting each objective. Next to each objective is the location where this FEIS discusses the evaluation measure in relation to the alternatives and design options. References to sections of the technical reports are provided where more detail on the topic may be desired.

Table 5. Goals, Objectives, and Evaluation Measures

Goal 1

Provide east-west transportation improvements from I-205 at the Milwaukie Expressway to the Rock Creek Junction to meet existing and future safety, connectivity, and capacity needs for statewide and regional travel within the OR 212/224 corridor.

Objectives	Evaluation Measures	Where the Measure is Evaluated in this FEIS
1. Relieve congestion and provide for efficient traffic flow.	a) Volume/capacity ratio of select roadways by project area screenlines	Transportation Section: Table 8, page 49
	b) Average travel time between common origin and destination points	Transportation Section: The 2030 Transportation System, pages 47-51; Table 9, page 53; Technical Report, Section 6.4.3, page 176 and Table 6-3
	c) Vehicle hours of delay (VHD) for project area	Transportation Section: The 2030 Transportation System, pages 47-51; Technical Report, Section 6.4.3, page 176 and Table 6-2
	d) Number of congested lane miles within project area	Transportation Section: The 2030 Transportation System, pages 47-51; Table 7, page 48
2. Provide facility improvements and access that are consistent with the Oregon Highway Plan.	Comparative description of how well alternatives and options meet Oregon Highway Plan operational and access-spacing standards for a new facility	Transportation Section: Consistency with Transportation Plans and Policies, pages 53-54; Technical Report, Section 3.2.2, page 56
3. Reduce congestion and improve safety on I-205 between the Milwaukie Expressway Interchange and the OR 212 Interchange.	a) Level of Service/number of vehicles served along identified section of I-205	Transportation Section: The 2030 Transportation System, pages 47-51; Figures 20-25, PA-9 and PA-10; Technical Report, Section 6.7, page 237
	b) Speed of travel along identified section of I-205	Transportation Section: The 2030 Transportation System, Table 7, page 48; Figures 20-25, PA-9 and PA-10; Technical Report, Section 6.7, page 237
	c) Estimated duration of queuing along this section of I-205	Technical Report, Section 6.5, page 195
	d) Description of design features and resulting safety effect of the project along this identified section of I-205	Transportation Section: The 2030 Transportation System, pages 47-51; Technical Report, Section 6.12, page 325
4. Improve safety and connectivity for motorists, pedestrians, and bicyclists within the project corridor.	a) Comparison of new or improved connections with regional bicycle/pedestrian facilities	Transportation Section: Bicycle and pedestrian system, page 51; Technical Report, Section 6.13, page 328
	b) Description of new or altered highway facility features and resulting effect on modal connectivity and safety	Transportation Section: The 2030 Transportation System, pages 47-51; Technical Report, Section 6.13, page 328

Volume/capacity ratio: the number of vehicles that use the roadway compared to the room available for them

Screenlines: imaginary lines drawn across a series of parallel roadways that are used to evaluate traffic demand changes

Level of Service (LOS): a qualitative measure to describe how a road is operating, e.g., well or poorly

Table 5. Goals, Objectives, and Evaluation Measures (continued)

Goal 1, continued		
5. Support access and operational needs for improved transit service in the project corridor.	Description of project features that improve transit operation and service	Transportation Section: Transit system, pages 50-51; Technical Report, Section 6.14, page 350
6. Provide flexibility in the design to accommodate the future possibility of high capacity transit (HCT) within both the OR 212/224 and the I-205 corridors.	Description of HCT features included in each alternative that support this objective	Subsequent to developing this evaluation measure, the regional public transit agency, TriMet, concluded that the appropriate corridor for HCT would be SE Sunnyside Road to the north. A new express bus service would run on the Sunrise Project, see description of transit service for the **Preferred Alternative** on page 23.
7. Serve freight travel in a safe and efficient manner.	Projected travel times for trucks (freight) traveling through the project corridor and to/from the Clackamas Industrial Area along OR 212 to the regional centers of Damascus, Clackamas Town Center, Portland Central Business District, Oregon City, Milwaukie, and Portland International Airport	Transportation Section: Table 9, page 53; Business and Communities Section, Changes to Travel Patterns, pages 101-105; Transportation Technical Report, Section 6.9, page 272
8. Develop a project that is consistent with land use and transportation planning in the region.	Description of comparative differences between alternatives and options in meeting the requirements and intent of local and regional plans	Land Use Section: Compatibility with Land Use Plans and Policies, pages 72-73
9. Provide a safe and efficient evacuation route for the metropolitan area that supports regional emergency management plans.	Description of project features that contribute to meeting this objective	Business and Communities Section: Emergency Services, page 101
Goal 2		
Provide transportation improvements that support the viability of the Clackamas area for industrial uses.		
Objectives	**Evaluation Measures**	**Where the measurement is evaluated in this FEIS**
1. Provide local circulation and access that support the transportation needs of area industrial uses.	Projected travel times for trucks (freight) traveling to/from the industrial subareas to the regional centers of Damascus, Clackamas Town Center, Portland Central Business District, Oregon City, Milwaukie, and Portland International Airport	Transportation Section: Table 9, page 53; Business and Communities Section: Businesses and the Economy, page 91, and Changes to Travel Patterns, pages 101-105; Transportation Technical Report, Section 6.9, page 272
2. Minimize construction impacts on local businesses.	a) Number of businesses displaced (wholly and partially)	Land Use Section: Table 10, page 69; Table 2, page ES-29
3. Minimize displacements of businesses and retain as much viable industrial land as possible.	b) Number of jobs (Full-Time-Equivalents) potentially displaced	Socioeconomics Technical Report: Table 2, page 11; Table 2, page ES-29
	c) Acres of industrial/employment zoned land converted to the new highway use	Land Use Section: Right-of-way Impacts, Table 2, page ES-27; and Table 10, page 69

High capacity transit (HCT): fixed rail light rapid transit or high-speed rapid bus

Table 5. Goals, Objectives, and Evaluation Measures (continued)

Goal 3		
Support community livability and protect the quality and integrity of residential uses within and adjacent to the corridor.		
Objectives	**Evaluation Measures**	**Where the measurement is evaluated in this FEIS**
1. Provide adequate access to the state highway system (I-205 and OR 212/224).	Level of service at major signalized intersections that access existing OR 212/224 and the Sunrise Project	Transportation Section: Figures 20-25, PA-9 and PA-10; Technical Report, Section 6.10, page 276
2. Maintain local roadway connectivity.	How long does it take to get to key points in the corridor to determine changes in connectivity	Transportation Section: The 2030 Transportation System; pages 47-51, Table 9, page 53, and Figures 20-25 and PA-9 and PA-10; Technical Report, Section 6.4.3, page 176
3. Minimize residential displacements.	Number of residential displacements	Land Use Section: Right-of-way Impacts, pages 67-68, Figures PA-11 through PA-15, and Table 10, page 69
4. Minimize and mitigate, where practicable, project-related noise impacts to residential areas.	Number of noise-affected residences after proposed mitigation has been applied	Noise Section: Table 15, page 149; Noise Abatement Measures for **Preferred Alternative**, pages 156-157; and Figure 38, Noise Walls, Figures PA-19, PA-20, and PA-21
5. Minimize the visual impacts of a new facility.	High/Medium/Low effect to identified sensitive viewer areas and visual resources	Visual Character and Resources Section: pages 127-138; Tables 13, 14, pages 127-128
6. Minimize and/or mitigate the effects of highway-related light pollution on residential areas.	High/Medium/Low adverse effect to residential areas after proposed mitigation is applied	Visual Character and Resources Section: Visual Quality and Viewer Sensitivity, pages 128-133, Figures 36, PA-17 & PA-18
7. Minimize loss of affordable housing.	Amount of affordable housing removed by the project	Business and Communities Section: Affordable Housing, page 98; Figure 29, Community Features; and Environmental Justice Section, pages 109-125, Table 12 page 121
Goal 4		
Provide a facility that minimizes and effectively mitigates adverse impacts to natural and cultural resources within the project corridor.		
Objectives	**Evaluation Measures**	**Where the measurement is evaluated in this FEIS**
1. Protect and, if practicable, enhance terrestrial wildlife corridors that are associated with building the proposed facility.	a) Effect on the functional continuity of the wildlife corridor	Biology Section: Wildlife Habitat, pages 178-183; Table 20, page 179
	b) Acres of directly affected wildlife corridor	Biology Section: Table 20, page 179, and Figures 39-47, PA-23, PA-24
2. Protect existing stream courses and riparian zones and effectively mitigate unavoidable impacts.	a) Acres of High/Medium/Low quality riparian area affected (based on Metro criteria)	Biology Section: Wildlife Habitat, pages 178-183; Table 20, page 179
3. Avoid impacting wetlands and aquatic resources where practicable. Where impacts are unavoidable, provide effective mitigation.	a) Acres of adversely affected wetlands by function	Wetlands Section: Amount of Wetlands Affected, page 236-237, Table 25, page 236, Table 26, page 238, Table 27, page 241
	b) Affected acres of riparian zone with aquatic T&E in the construction footprint [T&E: federally listed Threatened and Endangered species]	Biology Section: Threatened or Endangered Fish, Terrestrial Wildlife and Plants, pages 189-190 Biology Section: Wildlife Habitat, pages 178-183; Table 20, page 179
	c) Affected acres of riparian zone without aquatic T&E in the construction footprint	

Table 5. Goals, Objectives, and Evaluation Measures (continued)

Goal 4 (continued)		
Objectives	**Evaluation Measures**	**Where the measurement is evaluated in this FEIS**
4. Avoid impacting cultural sites and resources where practicable. Where impacts are unavoidable, provide recordation, salvage, and/or mitigation as appropriate.	a) Number of National Register historic sites affected	Cultural Resources Section: pages 266-268; Table 29, page 265, Table 30, page 265, Table 31, pages 267-268, Table 32, page 269
	b) Number of National Register eligible sites affected	
	c) Number of Goal 5 historic sites or areas affected	
	d) Number of archaeological sites affected	
	e) Number of archaeological sites affected that could not be recovered, such as burials, traditional cultural property	Cultural Resources Section: Archaeological Resources, page 264-265; Tables 28, 29, and 30, pages 264-269
5. Look for and consider opportunities to incorporate enhancements to existing natural and cultural resources within the project area.	A qualitative description of potential enhancements for each build alternative	Biology Section: Mitigation Measures for the **Preferred Alternative**, pages 190-193, Wetlands, pages 244-245; and Cultural Resources Section: pages 283-284
6. Protect habitat for Threatened and Endangered Species.	Acres of Essential Fish Habitat/Critical Habitat affected	Biology Section: Fish Habitat, pages 183-186; Threatened or Endangered Fish, Terrestrial Wildlife and Plants, pages 189-190
7. Protect water quality.	Net amount of impervious surface created	Biology Section: Water Quality, pages 186-188; Table 22 and Table 23, pages 187-188
8. Minimize negative impacts to air quality.	a) Comparison of the three worst performing intersections (LOS D, E, or F) per alternative for CO in parts per million (using CAL3QHC model)	Air Quality Section: Project Area Impacts, pages 165-166
	b) Comparison of regional pollutant emissions for CO, NO_x, and VOCs for each alternative (using EPA MOBILE 6.2 model)	Air Quality Section: Project Area Impacts, pages 165-166; Mobile Source Air Toxics Impact Analysis, pages 166-170

National Register of Historic Places (NRHP): a federal listing of historic resources protected under the National Historic Preservation Act of 1966

CO – carbon monoxide

CAL3QHC – computer model for estimating concentrations of CO adjacent to intersections

NOx – nitrogen oxides

VOCs – volatile organic compounds

MOBILE 6.2 – computer model used to estimate vehicle emissions; takes into account expected future changes due to improvements in vehicle emission control technology

Public and Agency Involvement

The Federal Highway Administration (FHWA) is the lead federal agency and ODOT is acting as an agent for FHWA in preparing the FEIS. ODOT and Clackamas County are the two main public agencies managing the project. A Project Management Team includes staff from Clackamas County, Metro, ODOT, FHWA, Happy Valley, and Damascus, and the technical team. The Project Management Team provides day-to-day management and direction for the variety of work products.

Working out design alternatives at an open house

The Project Advisory Committee is composed of 18 stakeholders from neighborhoods, businesses, the cities of Happy Valley and Damascus, TriMet, Metro, environmental groups, FHWA (a non-voting member), and service providers. The committee reviews the technical analysis and the public input and advises the Policy Review Committee. The Project Advisory Committee met twelve times between 2004 and the release of the SDEIS. They met another five times to review the SDEIS, to hear a summary of comments, and to develop recommendations on the **Preferred Alternative** to forward to the Policy Review Committee. (For a list of their meeting dates, locations, and topics see the section on "Public and Agency Involvement" in Chapter 1.)

The Policy Review Committee has senior representatives from Clackamas County, ODOT, Metro, and FHWA (which has a non-voting, advisory role) and elected officials from affected cities and Clackamas County. The Policy Review Committee reviews technical information from the Project Management Team, recommendations from the Project Advisory Committee and the public input at project milestones. The committee's final task was to recommend a **Preferred Alternative**.

Appendix F of this FEIS contains member lists of the Project Advisory and Policy Review committees and CETAS.

Public and agency involvement initially started in connection with the Sunrise Corridor project in the late 1980s and early 1990s.

Public Involvement Activities from 2004 to the Publication of this FEIS

The Project Advisory Committee was a central focus of the public involvement effort. Its meetings were open to the public, and 30 people, on average, regularly attended its meetings.

Public involvement efforts for the proposed Sunrise Project SDEIS began in 2004. Open houses in June 2004, October 2005, and September 2006 attracted 100 to 200 attendees. More than 100 people also attended the two-day design workshop held in December 2004. Several focused community meetings were held in different locations in the project area. Six newsletters and three postcards were distributed to approximately 5,000 addresses (in 2004) and more than 9,500 addresses at the end of 2009. Other outreach included flyers, community meetings, and presentations at meetings of the Board of County Commissioners for Clackamas County. Newspaper coverage, a website, and e-mail distribution lists rounded out the public involvement effort. Two public hearings were held in November 2008; 67 people attended on November 12 and 104 people attended on November 13. The public hearings were advertised through a public notice in the Oregonian, as well as display advertisements in the Oregonian, Clackamas Review, and Damascus/Boring Observer during the first

week of November. Clackamas County distributed a press release and hosted information on its website. The project website (www.sunrise-project.org) hosted the chapters of the SDEIS and advertised the hearing dates, as well as the comment period and instruction on how to submit comments. An email was sent to the interested parties email list inviting people to review the SDEIS, attend a public hearing, and submit comments. Newsletters were sent in October with a reminder postcard in November to the mailing list of 9,687 addresses. The newsletter included a mail-back comment form to easily allow people to submit comments.

The public hearings at the open houses consisted of an overview of the project with opportunities to learn more about the SDEIS findings. Members of the Policy Advisory Committee attended the hearings to listen to comments directly. Eighteen people provided oral testimony. All other comments were submitted during the hearings and comment period using the provided comment forms, letter, fax, or email.

ODOT has also conducted targeted outreach to affected tribes. A discussion and log of outreach to tribes are contained in Appendix B of this FEIS. For more information on recent public involvement activities, see the "Public and Agency Involvement" section, Chapter 1.

Project Schedule

The Sunrise Project began in 2004. A first task was defining the scope of analysis for the SDEIS. From 2005 through late 2008, the project activities were the following:

- Establishing the Purpose and Need.
- Establishing goals and objectives.
- Developing and refining the project alternatives.
- Selecting alternatives to be studied for the SDEIS.
- Studying the alternatives and completing the technical reports.
- Writing and publishing the SDEIS (October 13, 2008).

Between mid-2008 and 2010, the project activities were the following:

- Two public hearings on November 12 and 13, 2008.
- Reviewing and considering public comments from public hearings, open houses, and other events.
- Developing a **Preferred Alternative**.
- Analyzing the impacts of the **Preferred Alternative** and developing mitigation measures.
- Revising the technical reports.
- Writing this FEIS.

Clackamas County adopted Interchange Area Management Plans (IAMPs) for the interchanges. Clackamas County adopted all three IAMPs (see below) on August 19, 2010. The City of Damascus will adopt the Rock Creek Junction IAMP after the city has an adopted comprehensive plan and transportation system plan. Happy Valley plans to adopt the three IAMPs after the Record of Decision. The three IAMPs are:

- Sunrise West IAMP (two interchanges):
  - I-205/Milwaukie Expressway/Sunrise
  - I-205/OR212-224 (Clackamas)
- Midpoint IAMP
- Rock Creek Junction IAMP

The anticipated schedule for the remainder of the Sunrise Project is as follows:

Publish FEIS	Winter 2010
FHWA Record of Decision	Winter 2011
Complete final design, permitting, right-of-way acquisition	2011-2013
Begin construction	2013 at the earliest

Next Steps

Following publication of this FEIS, if FHWA publishes a Record of Decision, it will be no

sooner than 30 days from the publication of the FEIS.

The Record of Decision will contain the committed mitigation measures required for the project's implementation. FHWA's signature of the Record of Decision completes FHWA's decision-making process for the Sunrise Project.

The Oregon Transportation Commission will need to approve the IAMPs before construction on each interchange begins.

In addition, FHWA will need to approve an Interchange Modification Request for revised access to I-205 after issuance of the Record of Decision.

One of the challenges on the project has been finding sufficient funds to build the project. Strategies for phasing as a way to build the project in affordable stages are being considered.